



# HEALTH SCIENCE

Program of Studies  
2015-2016



## HEALTH SCIENCE

Health Science – Career Major							
Course Title	Post-Secondary Connection	Course Code	Recommended Grade Level				Recommended Credit
			9	10	11	12	
Body Structures and Functions		170167		X	X	X	.5 - 1
Emergency Procedures		170141	X	X	X	X	.5 - 1
Health and Wellness		170172		X	X	X	.5 - 1
Holistic Health		170168		X	X	X	.5 - 1
Medical Math	FHM 100	170169	X	X	X	X	.5 - 1
Medical Terminology I	AHS 120	170131		X	X	X	.5
Medical Terminology II	AHS 115	170132		X	X	X	1
Principles of Health Science	AHS 105	170111	X	X	X	X	1

Health Science – Allied Health							
Course Title	Post-Secondary Connection	Course Code	Recommended Grade Level				Recommended Credit
			9	10	11	12	
Allied Health Core Skills		170501			X	X	.5 - 1
Internship: Advanced Allied Health Core Skills		170521			X	X	.5 - 1
Internship: Allied Health		170550		X	X	X	.5 - 1
Internship: Child Care Worker		170551		X	X	X	1
Internship: Dental Assistant		170552			X	X	1-2
Internship: Dietetic Technician		170553			X	X	.5 - 1
Internship: Dispensing Optician		170554			X	X	.5 - 1
Internship: EKG Technician		170555		X	X	X	1
Internship: Funeral Attendant		170568			X	X	.5 - 1
Internship: Health Science		170566			X	X	1
Internship: Medical Assistant		170556			X	X	.5 - 1
Internship: Medical Laboratory Aide (Phlebotomist)		170567			X	X	2
Internship: Occupational Therapy Aide		170569			X	X	.5 - 1
Internship: Personal and Home Care Aide		170557			X	X	.5 - 1
Internship: Pharmacy Technician		170558			X	X	2
Internship: Physical Therapy Aide		170559			X	X	.5 - 1
Internship: Psychiatric Aide		170560			X	X	.5 - 1
Internship: Radiographic Aide		170564			X	X	.5 - 1
Internship: Speech Therapy Aide		170565			X	X	.5 - 1
Internship: Veterinary Assistant & Laboratory Animal Caretaker		170563		X	X	X	1
Special Topics in Allied Health		170591		X	X	X	.5 - 1

### Health Science – Biomedical Science

*\*District and School must have a valid and current STEM agreement signed with PLTW and the teacher must complete Core Training to offer this Career Pathway and/or any of these courses.*

Course Title	Post-Secondary Connection	Course Code	Recommended Grade Level				Recommended Credit
			9	10	11	12	
Principles of Biomedical Science	PLTW	170701	X	X	X		1
Human Body Systems	PLTW	170702	X	X	X		1
Medical Interventions	PLTW	170703		X	X	X	1
Biomedical Innovation	PLTW	170704			X	X	1
Internship: Biomedical Science, General		170705				X	.5 – 1
Internship: Biomedical Science, EKG Technician		170706				X	.5 – 1
Internship: Biomedical Science, Pharmacy Technician		170707				X	.5 - 1

### Health Science – Medical Administrative Assistant

Course Title	Post-Secondary Connection	Course Code	Recommended Grade Level				Recommended Credit
			9	10	11	12	
Medical Office Procedures	MIT 217	170920			X	X	1
Internship: Medical Administrative Assistant	MIT 296	170922				X	1

### Health Science – Pre-Nursing

Course Title	Post-Secondary Connection	Course Code	Recommended Grade Level				Recommended Credit
			9	10	11	12	
Advanced Nursing Assistant	NAA 125	170620		X	X	X	3
Advanced Pre-Nursing	NAA115	170621			X	X	1
Co-op (Nursing)		170601			X	X	1
Development of Care Giver Role	NPN 105	170611		X	X	X	2
Health Science Microbiology/Infection Control	AHS 130	170640		X	X	X	.5
Introduction to Nursing and Health Care System	NPN 100	170610		X	X	X	.5
Medicaid Nurse Aide	MNA 100	170631			X	X	1 - 2
Pharmacological and Other Therapeutic Modalities	NPN 110	170614		X	X	X	.5

<b>Health Science – Sports Medicine</b>							
Course Title	Post-Secondary Connection	Course Code	Recommended Grade Level				Recommended Credit
			9	10	11	12	
Essentials of Sports Medicine		170301		X	X	X	1
Applied Sports Medicine		170302			X	X	1
Internship: Sports Medicine		170303			X	X	.5 - 1

<b>Health Science – Veterinary Assisting</b>							
Course Title	Post-Secondary Connection	Course Code	Recommended Grade Level				Recommended Credit
			9	10	11	12	
Principles of Veterinary Assisting		170801		X	X	X	1
Veterinary Assisting Skills		170802		X	X	X	1
Advanced Veterinary Assisting Skills		170803			X	X	1
Veterinary Assisting Internship		170804				X	1

<b>Industrial Education – Public Services</b>							
Course Title	Post-Secondary Connection	Course Code	Recommended Grade Level				Recommended Credit
			9	10	11	12	
Emergency Medical Technician (EMT)		461022	X	X	X	X	1
EMS Training		461023	X	X	X	X	1-6

Last revised June 1, 2015

## Overview of Health Science Program

The Health Science Program provides the secondary student with orientation, exploration, and preparation into the health care industry. Courses are sequenced to provide continuous student progress toward achievement of a career goal in any of the Health Science pathways. The integration of literacy, numeracy, science, employability, 21<sup>st</sup> Century skills, and technical skills is a vital component of each course offering.

This program assists the student in developing essential skills to pursue a career in the health care field. After obtaining a satisfactory performance level in the health care core competencies, the student may obtain work experience in a health-related facility. Upon successful completion of the program, the student may receive dual/articulation credit through a college/university if an agreement is available.

### Why a Health Science Pathway?

Career and Technical Education program offerings should be based on the needs of the community and state—the one occupation needed in all communities across the Commonwealth is health care. Students should have the opportunity to obtain preparation in fields of study that offer the probability of employment once that pathway of courses is completed. Currently, Kentucky joins a nationwide shortage of health care workers. At a time when many industries are downsizing, the health care industry is one of the largest industries in the country with more than 14 million jobs. According to the *U.S. Health Workforce Chartbook*, these individuals represent approximately 10 percent of the nation's workforce. Of the top 20 professions projected as “fastest growing occupations” by the Occupational Outlook Handbook: U.S. Bureau of Labor Statistics, 11 are health science career pathway occupations. From Personal Care Aides (70%) to Physical Therapists (39%), health occupations make up over 50% of the projected workforce growth.

Health care professionals work in a variety of settings including clinics, laboratories, hospitals, and schools. There are many challenging careers in health care such as biomedical engineer, forensic pathologist, nurse, cardiovascular technician, medical secretary and physical therapist. Combining medical technology and the human touch, the health care industry administers care around the clock responding to the needs of millions of people across the lifespan. More than 460,000 establishments make up the health care industry. Two-thirds of all private health service establishments are offices of physicians or dentists. Although hospitals comprise less than 2 percent of all private health service establishments, they employ nearly 40 percent of all workers.

The number of health care specializations are fueling the overall growth of the industry because of: the Affordable Care Act; an aging population; new forms of information technology; the need for multi-skilled workers; the move toward preventative and primary care; the increase in outpatient surgery; more preventative care in the workplace; a decrease in the number of health care workers in rural and inner city areas; and the exodus of many “mature” workers into other professions or retirement.

### **Program Requirements**

The program shall meet the criteria established by state and national approval/accrediting agencies that certify and/or register the graduates of the program. In a Health Science program, the teacher on record shall be a licensed (active) health care professional in the Commonwealth of Kentucky and meet requirements for teaching in a Career and Technical Education Program area. A teacher of the Medicaid Nurse Aide course must be a Registered Nurse and meet the guidelines as established by the Kentucky Medicaid Program, adhere to a 15:1 student to teacher ratio, and meet the requirements for teaching a Career and Technical Education program area. A recommended list of equipment and supplies and facility guidelines for the program is available.

### **Work-Based Learning**

Work-based learning within the Health Science program may include shadowing, clinical experience, internship, and/or cooperative education. These experiences should be connected to the student's career pathway. Specific guidelines are outlined in 705 KAR 4:041. Information on other types of work-based learning is described in detail in the *Work-Based Learning Manual*, which is available on the KDE web page at:

<http://education.ky.gov/CTE/cter/Pages/WBL.aspx>

Specific guidelines for work-based learning relating to the Health Science program include:

- A health science teacher who is licensed in Kentucky as a Registered Nurse must provide clinical supervision for Medicaid Nurse Aide training;
- All Health Science students must be covered by a professional liability insurance plan as required by the affiliating agency;
- All Health Science students must have completed a series of courses approved by the instructor prior to a work-based experience;
- The school shall use the approved standard agreement with each cooperating agency specifying responsibilities and authority of each party to the agreement;
- A "Statement of Understanding" defining student responsibility shall be signed by student and parent or guardian prior to assignment in a clinical area, practicum, or cooperative experience.

***Thanks to the Health Science Career Pathway Curriculum Team***

<b>Teacher</b>	<b>School</b>	<b>Specialty Area</b>
Rhonda Whitson	Fleming County High School	Health Science
Sharon Pence	Greenup County ATC	Health Science
Emily Tuel	Harrison County ATC	Health Science
Susan Readnower	Harrodsburg ATC	Health Science
Lori Fulkerson	Henderson County High School	Health Science
Peggy Williford	Jefferson County Public Schools	Health Science
Tammy Combs	Lee County ATC	Health Science
May Arnold	Madison County ATC	Health Science
Rhonda Childress	Rockcastle County ATC	Health Science
Sherry Allen	Shelby County ATC	Health Science
Julye Adams	Elkhorn Crossing School	Biomedical Science
Tonya Burns	Shelby County High School	Biomedical Science
Angie Lewis	Grant County CTC	Biomedical Science
Tim Amshoff	Moore High School – JCPS	Sports Medicine
Michael Campbell	Valley High School – JCPS	Sports Medicine
Scott Rouse	Hardin County Early College & Career Center	Sports Medicine
Stephanie Nichols	Valley High School	Veterinary Assisting
Latissa Higgins	Locust Trace Agriscience School	Veterinary Assisting
Tammy Wright	Central High Schools	Veterinary Assisting
Kathleen Magsam	Locust Trace Agriscience School	Veterinary Assisting

## HEALTH SCIENCES CAREER PATHWAYS 2015-2016

### ALLIED HEALTH CIP 51.0000.01

**PATHWAY DESCRIPTION:** A general, introductory, undifferentiated, or joint program in health services occupations that prepares individuals for either entry into specialized training programs or for a variety of concentrations in the allied health area. Includes instruction in the basic sciences, research and clinical procedures, and aspects of the subject matter related to various health occupations.

#### BEST PRACTICE CORE

*Foundational Skills Necessary for Career-Ready Measure:  
(KOSSA/Industry Certification)*

*Complete (2) **TWO CREDITS** from the following:*

- 170111 Principles of Health Science
- 170141 Emergency Procedures\*\* AND 170131 Medical Terminology I\*

*Choose (2) **TWO CREDITS** from the following:*

- 170501 Allied Health Core Skills
- 170169 Medical Math\*\*
- 170168 Holistic Health
- 170167 Body Structures and Functions OR  
302631 Anatomy (Science Course)
- 170550 Internship: Allied Health

Note: (\*) Indicates half-credit (.5) course

Note: (\*\*) Indicates course can be half-credit (.5) OR a full (1) credit course

#### EXAMPLE HSP-RELATED CAREER TITLES

Doctor  
Nurse  
Pharmacist  
Physical Therapist  
Psychologist  
Radiologist  
Surgeon  
Veterinarian



## HEALTH SCIENCES CAREER PATHWAYS

### 2015-2016

### PLTW BIOMEDICAL SCIENCES

#### CIP 26.0102.00

**PATHWAY DESCRIPTION:** A general, program that focuses on the integrative scientific study of biological issues related to health and medicine, or a program in one or more of the biomedical sciences that is undifferentiated as to title. Includes instruction in any of the basic medical sciences at the research level; biological science research in biomedical faculties; and general studies encompassing a variety of the biomedical disciplines.

#### BEST PRACTICE CORE

*Foundational Skills Necessary for Career-Ready Measure:  
(KOSSA/Industry Certification)*

*Complete (4) **FOUR CREDITS:***

- 170701 Principles of Biomedical Science
- 170702 Human Body Systems
- 170703 Medical Interventions
- 170704 Biomedical Innovations

Note: (PLTW) courses require an agreement between  
Project Lead the Way and the Local School District.

#### EXAMPLE ILP-RELATED CAREER TITLES

Biologist  
Biomedical Engineer  
Biotechnologist  
Coroner  
Doctor  
Forensic Scientist  
Nurse  
Pharmacist  
Surgeon

## HEALTH SCIENCES CAREER PATHWAYS

### 2015-2016

### DENTAL TECHNOLOGY

#### CIP 51.0601.01

**PATHWAY DESCRIPTION:** A program that prepares individuals to provide patient care, take dental radiographs (x-ray photographs), prepare patients and equipment for dental procedures, and discharge office administrative functions under the supervision of dentists and dental hygienists. Includes instruction in medical record-keeping, general office duties, reception and patient intake, scheduling, equipment maintenance and sterilization, basic radiography, pre- and post-operative patient care and instruction, chairside assisting, taking tooth and mouth impressions, and supervised practice.

#### BEST PRACTICE CORE

#### EXAMPLE ILP-RELATED CAREER TITLES

*Foundational Skills Necessary for Career-Ready Measure:  
(KOSSA/Industry Certification)*

*Complete (3) **THREE CREDITS** from the following:*

- 170111 Principles of Health Science
- 170141 Emergency Procedures\*\* AND 170131 Medical Terminology I\*
- 170552 Internship: Dental Assistant

*Choose (1) **ONE CREDIT** from the following:*

- 170132 Medical Terminology II\* (*course targeted for removal*)
- 170167 Body Structures and Functions OR  
302631 Anatomy (Science Course)  
170501 Allied Health Core Skills

Note: (\*) Indicates half-credit (.5) course

Note: (\*\*) Indicates course can be half-credit (.5) OR a full (1) credit course

Dentist  
Dental Assistant  
Dental Lab Tech

## HEALTH SCIENCES CAREER PATHWAYS

### 2015-2016

### EKG TECHNOLOGY/TECHNICIAN

#### CIP 51.0902.01

**PATHWAY DESCRIPTION:** A program that prepares individuals, under the supervision of physicians and nurses, to administer EKG and ECG diagnostic examinations and report results to the treatment team. Includes instruction in basic anatomy and physiology, the cardiovascular system, medical terminology, cardiovascular medications and effects, patient care, EKG and ECG administration, equipment operation and maintenance, interpretation of cardiac rhythm, patient record management, and professional standards and ethics.

#### BEST PRACTICE CORE

#### EXAMPLE ILP-RELATED CAREER TITLES

*Foundational Skills Necessary for Career-Ready Measure:  
(KOSSA/Industry Certification)*

*Complete (3) **THREE CREDITS** from the following:*

- 170111 Principles of Health Science
- 170141 Emergency Procedures\*\* AND 170131 Medical Terminology I\*
- 170555 Internship: EKG Technician

*Choose (1) **ONE CREDIT** from the following:*

- 170132 Medical Terminology II (*course targeted for removal*)
- 170167 Body Structures and Functions OR  
302631 Anatomy (Science Course)
- 170501 Allied Health Core Skills

Note: (\*) Indicates half-credit (.5) course

Note: (\*\*) Indicates course can be half-credit (.5) OR a full (1) credit course

Diagnostic Medical  
Sonographer  
Medical Assistant  
Medical Lab Tech  
Nurse  
Radiologist

## HEALTH SCIENCES CAREER PATHWAYS

### 2015-2016

### EMERGENCY MEDICAL TECHNICIAN

#### CIP 51.0904.01

**PATHWAY DESCRIPTION:** A program that prepares individuals, under the remote supervision of physicians, to recognize, assess, and manage medical emergencies in prehospital settings and to supervise Ambulance personnel. Includes instruction in basic, intermediate, and advanced EMT procedures; emergency surgical procedures; medical triage; rescue operations; crisis scene management and personnel supervision; equipment operation and maintenance; patient stabilization, monitoring, and care; drug administration; identification and preliminary diagnosis of diseases and injuries; communication and computer operations; basic anatomy, physiology, pathology, and toxicology; and professional standards and regulations.

#### BEST PRACTICE CORE

#### EXAMPLE ILP-RELATED CAREER TITLES

*Foundational Skills Necessary for Career-Ready Measure:  
(KOSSA/Industry Certification)*

*Complete (4) **FOUR CREDITS:***

- 170111 Principles of Health Science
- 170141 Emergency Procedures\*\* AND 170131 Medical Terminology I\*
- 461022 Emergency Medical Technician (EMT)
- 461023 EMS Training

Note: (\*) Indicates half-credit (.5) course

Note: (\*\*) Indicates course can be half-credit (.5) OR a full (1) credit course

Note: This pathway requires an agreement with the KY Board of Emergency Medical Services. More information explained via: [www.kbems.kctcs.edu](http://www.kbems.kctcs.edu).

Paramedic

## HEALTH SCIENCES CAREER PATHWAYS 2015-2016

### MEDICAL ADMINISTRATIVE ASSISTING CIP 51.0710.00

**PATHWAY DESCRIPTION:** A program that prepares individuals, under the supervision of office managers and other professionals, to perform routine administrative duties in a medical, clinical, or health care facility/system office environment. Includes instruction in general office skills, data processing, office equipment operation, principles of medical record-keeping and business regulations, medical/clinical office procedures, and communications skills.

#### BEST PRACTICE CORE

*Foundational Skills Necessary for Career-Ready Measure:  
(KOSSA/Industry Certification)*

*Complete (4) **FOUR CREDITS:***

- 170111 Principles of Health Science
- 170141 Emergency Procedures\*\* AND 170131 Medical Terminology I\*
- 170920 Medical Office Procedures
- 170922 Internship: Medical Administrative Assistant

Note: (\*) Indicates half-credit (.5) course

Note: (\*\*) Indicates course can be half-credit (.5) OR a full (1) credit course

#### EXAMPLE ILP-RELATED CAREER TITLES

Medical Assistant

Medical Secretary

Medical Transcriptionist

## HEALTH SCIENCES CAREER PATHWAYS 2015-2016

### PHLEBOTOMY TECHNICIAN CIP 51.1009.01

**PATHWAY DESCRIPTION:** A program that prepares individuals, under the supervision of physicians and other health care professionals, to draw blood samples from patients using a variety of intrusive procedures. Includes instruction in basic vascular anatomy and physiology, blood physiology, skin puncture techniques, venipuncture, venous specimen collection and handling, safety and sanitation procedures, and applicable standards and regulations.

#### BEST PRACTICE CORE

*Foundational Skills Necessary for Career-Ready Measure:  
(KOSSA/Industry Certification)*

*Complete (3) **THREE CREDITS** from the following:*

- 170111 Principles of Health Science
- 170141 Emergency Procedures\*\* AND 170131 Medical Terminology I\*
- 170567 Internship: Medical Laboratory Aide (Phlebotomist)

*Choose (1) **ONE CREDIT** from the following:*

- 170169 Medical Math\*\*
- 170168 Holistic Health (*course targeted for removal*)
- 170167 Body Structures and Functions OR  
302631 Anatomy (Science Course)
- 170501 Allied Health Core Skills

Note: (\*) Indicates half-credit (.5) course

Note: (\*\*) Indicates course can be half-credit (.5) OR a full (1) credit course

#### EXAMPLE ILP-RELATED CAREER TITLES

Medical Lab Tech  
Phlebotomist

# HEALTH SCIENCES CAREER PATHWAYS

## 2015-2016

### PHARMACY TECHNICIAN

#### CIP 51.0805.01

**PATHWAY DESCRIPTION:** A program that prepares individuals, under the supervision of pharmacists, to prepare medications, provide medications and related assistance to patients, and manage pharmacy clinical and business operations. Includes instruction in medical and pharmaceutical terminology, principles of pharmacology and pharmaceuticals, drug identification, pharmacy laboratory procedures, prescription interpretation, patient communication and education, safety procedures, record-keeping, measurement and testing techniques, pharmacy business operations, prescription preparation, logistics and dispensing operations, and applicable standards and regulations.

#### BEST PRACTICE CORE

**EXAMPLE  
ILP-RELATED  
CAREER TITLES**  
Pharmacy Technician

*Foundational Skills Necessary for Career-Ready Measure:  
(KOSSA/Industry Certification)*

*Complete (3) **THREE CREDITS** from the following:*

- 170111 Principles of Health Science
- 170141 Emergency Procedures\*\* AND 170131 Medical Terminology I\*
- 170558 Internship: Pharmacy Technician  
(Note: Course title expected to remove "Internship" in 16-17 due to a full classroom curriculum in the course)

*Choose (1) **ONE CREDIT** from the following:*

- 170169 Medical Math\*\*
- 170167 Body Structures and Functions OR  
302631 Anatomy (Science Course)
- 170168 Holistic Health
- 170501 Allied Health Core Skills
- 170614 Pharmacological and Other Therapeutic Modalities\*  
(course targeted for removal)

Note: (\*) Indicates half-credit (.5) course

Note: (\*\*) Indicates course can be half-credit (.5) OR a full (1) credit course

## HEALTH SCIENCES CAREER PATHWAYS 2015-2016

### PRE-NURSING CIP 51.2699.01

**PATHWAY DESCRIPTION:** A program that prepares individuals for admission to a professional program in Nursing.

#### BEST PRACTICE CORE

*Foundational Skills Necessary for Career-Ready Measure:  
(KOSSA/Industry Certification)*

*Complete (3) **THREE CREDITS** from the following:*

- 170111 Principles of Health Science
- 170141 Emergency Procedures\*\* AND 170131 Medical Terminology I\*
- 170631 Medicaid Nurse Aide

*Choose (1) **ONE CREDIT** from the following:*

- 170169 Medical Math\*\*
- 170521 Internship: Advanced Allied Health Core Skills  
(course targeted for removal)
- 170621 Advanced Pre-Nursing (course targeted for removal)
- 170167 Body Structures and Functions OR  
302631 Anatomy (Science Course)
- 170601 Co-op (Nursing)

Note: (\*) Indicates half-credit (.5) course

Note: (\*\*) Indicates course can be half-credit (.5) to a full (1) credit course

#### EXAMPLE ILP-RELATED CAREER TITLES

Licensed Practical Nurse  
Nurse  
Nurse Practitioner  
Nursing Assistant  
Physician's Assistant  
Doctor



## HEALTH SCIENCES CAREER PATHWAYS

### 2015-2016

### SPORTS MEDICINE

#### CIP 51.0913.00

**PATHWAY DESCRIPTION:** A program that prepares individuals to work in consultation with, and under the supervision of physicians to prevent and treat sports injuries and associated conditions. Includes instruction in the identification, evaluation, and treatment of athletic injuries and illnesses; first aid and emergency care; therapeutic exercise; anatomy and physiology; exercise physiology; kinesiology and biomechanics; nutrition; sports psychology; personal and community health; knowledge of various sports and their biomechanical and physiological demands; and applicable professional standards and regulations.

#### BEST PRACTICE CORE

*Foundational Skills Necessary for Career-Ready Measure:  
(KOSSA/Industry Certification)*

*Complete (4) **FOUR CREDITS:***

- 170111 Principles of Health Science
- 170141 Emergency Procedures\*\* AND 170131 Medical Terminology I\*
- 170301 Essentials of Sports Medicine
- 170302 Applied Sports Medicine

Note: (\*) Indicates half-credit (.5) course

Note: (\*\*) Indicates course can be half-credit (.5) to a full (1) credit course

#### EXAMPLE ILP-RELATED CAREER TITLES

Athletic Trainer  
Orthopedic Surgeon  
Physical Therapist  
Physical Therapy Assistant  
Physician Assistant

## HEALTH SCIENCES CAREER PATHWAYS

### 2015-2016

### VETERINARY ASSISTANT

#### CIP 51.0808.00

**PATHWAY DESCRIPTION:** A program that prepares individuals, under the supervision of veterinarians, veterinary technicians, laboratory animal specialists, and zoological professionals, to provide patient management, care, and clinical procedures assistance as well as owner communication. Includes instruction in animal nursing care, animal health and nutrition, animal handling, clinical pathology, radiology, surgical assisting, clinical laboratory procedures, office administration skills, patient and owner management, and applicable standards and regulations.

This program follows National Association of Veterinary Technicians in America (NAVTA) guidelines and offers students the opportunity for national certification as an approved Veterinary Assistant.

#### BEST PRACTICE CORE

#### EXAMPLE ILP-RELATED CAREER TITLES

*Foundational Skills Necessary for Career-Ready Measure:  
(KOSSA/Industry Certification)*

*Complete (4) **FOUR CREDITS:***

- 170801 Principles of Veterinary Assisting
- 170802 Veterinary Assisting Skills
- 170803 Advanced Veterinary Assisting Skills
- 170804 Veterinary Assisting Internship

Note: (\*) Indicates half-credit (.5) course

Note: (\*\*) Indicates course can be half-credit (.5) to a full (1) credit course

Animal Caretaker  
Animal Trainer  
Marine Biologist  
Veterinarian  
Veterinary Technician  
Zoologist  
Zookeeper

**COMPLEMENTARY OR ADVANCED COURSEWORK BEYOND  
HEALTH SCIENCES PATHWAY(s)**

Upon completion of a pathway, additional coursework to enhance student learning is encouraged. Credits earned in Advanced or Complementary Coursework “Beyond the Pathway” may not be substituted for pathway courses in order to achieve Preparatory or Completer status.

<u>Course Code</u>	<u>Course Title</u>
170172	Health and Wellness <i>(course targeted for removal 16-17)</i>
170199	Leadership Dynamics – Health Science
170705	Internship: Biomedical Science, General
170706	Internship: Biomedical Science, EKG Technician
170707	Internship: Biomedical Science, Pharmacy Technician
170553	Internship: Dietetic Technician <i>(course targeted for removal 16-17)</i>
170554	Internship: Dispensing Optician <i>(course targeted for removal 16-17)</i>
170568	Internship: Funeral Attendant <i>(course targeted for removal 16-17)</i>
170566	Internship: Health Science <i>(course targeted for removal 16-17)</i>
170556	Internship: Medical Assistant <i>(course targeted for removal 16-17)</i>
170569	Internship: Occupational Therapy Aide <i>(course targeted for removal 16-17)</i>
170557	Internship: Personal and Home Care Aide <i>(course targeted for removal 16-17)</i>
170559	Internship: Physical Therapy Aide <i>(course targeted for removal 16-17)</i>
170560	Internship: Psychiatric Aide <i>(course targeted for removal 16-17)</i>
170564	Internship: Radiographic Aide <i>(course targeted for removal 16-17)</i>
170565	Internship: Speech Therapy Aide <i>(course targeted for removal 16-17)</i>
170563	Internship: Veterinary Assistant & Laboratory Animal Caretaker <i>(course targeted for removal 16-17)</i>
170591	Special Topics in Allied Health
170611	Development of Care Giver Role <i>(course targeted for removal 16-17)</i>
170640	Health Science Microbiology/Infection Control
170610	Introduction to Nursing and Health Care System <i>(course targeted for removal 16-17)</i>
170615	Nursing Assistant Skills I <i>(course targeted for removal 16-17)</i>
170613	Nursing Assistant Skills II <i>(course targeted for removal 16-17)</i>
170691	Special Topics in Health Science/Pre-Nursing Major <i>(course targeted for removal 16-17)</i>

## KENTUCKY CAREER PATHWAY/PROGRAM OF STUDY TEMPLATE

**COLLEGE/UNIVERSITY:**

Eastern Kentucky University

**CLUSTER:**

Health Science

**HIGH SCHOOL (S):**

Rockcastle Co. High School

**PATHWAY:**

Phlebotomy Technician

**PROGRAM:**

Health Science

	GRADE	ENGLISH	MATH	SCIENCE	SOCIAL STUDIES	REQUIRED COURSES RECOMMENDED ELECTIVE COURSES OTHER ELECTIVE COURSES CAREER AND TECHNICAL EDUCATION COURSES			CREDENTIAL CERTIFICATE DIPLOMA DEGREE	SAMPLE OCCUPATIONS
<b>SECONDARY</b>	9	English 9	Algebra I	Physical Science	Civics/ Geography	Health & PE	Computer/Tech Applications	Principles of Health Science		Phlebotomist
										Medical Laboratory Assistant
	10	English 10	Algebra II /Geometry	Biology	World History	Foreign Lang/ Arts & Humanities	Child Development	Principles of Health Science		
	11	English 11	Geometry /Advance Topics	Chemistry/ Physics	US History	Medical Math/Health Wellness	Medical Terminology And Emergency Procedures	Body Structures and Functions	Certification in First Aide and CPR	
	12	English 12	Calculusor College Math Readiness	Chemistry/ Physics	Psychology	Internship Medical Laboratory Aide	Internship Medical Laboratory Aide	Allied Health Core Skills	KOSSA Allied Health Assessment/ Phlebotomy Tech Cert.	Medical Laboratory Technician/Tech nologist
<b>POSTSECONDARY</b>	Year 13	English or Oral Communications	College Algebra	Chemistry/ Biological Science	American Government	Courses Health	Required for Program in	Completion Area of	Of Allied Specialization	
	Year 14	English or Oral Communication	Statistics	Microbiology	American History/ Sociology	Continue	Required	course	Associate Degree In Allied Health	
	Year 15	University Specific	General Education Requirements			Continue	Required	course		

	Year 16	University Specific	General Education Requirements		Continue	Required	course	Baccalaureate Degree in Allied Health	Cardiovascular Technologist
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**CCTI**

College and Career Transitions Initiative

Funded by the U. S. Department of Education

(V051B020001)

Revised Jan. 2005

October, 2006-CTE/Kentucky

#### Required Courses

#### Recommended Elective Courses

#### Other Elective Courses

#### Career and Technical Education Courses

**Credit-Based Transition Programs (e.g. Dual/Concurrent Enrollment, Articulated Courses, 2+2+2)**  
 (= High School to Community College) (= Com. College to 4-Yr Institution) (=Opportunity to test out)

#### Mandatory Assessments, Advising, and Additional Preparation

**Note:** Categories of courses (e.g. Required, Recommended Electives, other Electives and Career and Technical Education) apply to both secondary and postsecondary levels.

FINAL DRAFT

## **Health Science – Courses**

## Body Structures and Functions

Valid Course Code: 170167

**Course Description:** Body Structures and Functions (formerly Basic Anatomy and Physiology) is designed to provide knowledge of the structure and function of the human body with an emphasis on normalcy. The interactions of all body systems in maintaining homeostasis will promote an understanding of the basic human needs necessary for health maintenance. Academic knowledge from life science core content as it relates to the human body will be included. Laboratory activities should be a part of the course when appropriate.

### Content/Process

**Students will:**

1. Describe the basic structures and functions of cells, tissues, organs, and each body system as they relate to homeostasis.
2. Compare relationships among cells, tissues, organs, and systems.
3. Explain body planes, directional terms, quadrants, and cavities.
4. Analyze the interdependence of the body systems as they relate to wellness, disease, disorders, therapies, and care rehabilitation.
5. Analyze body system changes in light of diseases, disorders, and wellness.
6. Compare the aging process among the body systems.
7. Discuss and explain the interrelationships and pathophysiology behind specific illness affecting each body system.
8. Integrate literacy and numeracy concepts and processes across all curricular units.

### Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement

## Emergency Procedures

**Valid Course Code: 170141**

<p><b>Course Description:</b> This course will focus on potential emergency situations. It is designed to promote an understanding of standard precautions necessary for personal and professional health maintenance and infection control. Upon successful completion of the course, the student will demonstrate the necessary skills in First Aid and Cardiopulmonary Resuscitation (CPR) and will be given the opportunity to take the completion examination as outlined by the sponsoring agency.</p>
Content/Process
<p><b>Students will:</b></p> <ol style="list-style-type: none"> <li>1. Demonstrate proper emergency rescue and transport procedures.</li> <li>2. Analyze emergency situations and determine appropriate emergency care.</li> <li>3. Investigate legal and ethical issues related to emergency procedures.</li> <li>4. Demonstrate correct use of PPE in relation to standard precautions for prevention or spread of disease.</li> <li>5. Compose an emergency plan for the home.</li> <li>6. Assess the physical and mental status of the client.</li> <li>7. Research and debate issues concerning organ donation.</li> <li>8. Evaluate data related to the mortality rate of the local community.</li> <li>9. Identify and locate designated emergency shelters in the community.</li> <li>10. Compare and contrast emergency procedures used in the media to reality.</li> <li>11. Inspect the school and/or home for potential safety hazards.</li> <li>12. Evaluate current health or safety issues in the community.</li> <li>13. Research current data available on the economic impact of life support systems.</li> <li>14. Evaluate emergency services and resources available in the community.</li> <li>15. Demonstrate proficiency in CPR, AED and first aide techniques.</li> <li>16. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.</li> <li>17. Use information technology applications as appropriate to health care specialties.</li> <li>18. Integrate literacy and numeracy concepts and processes across all curricular units.</li> <li>19. Demonstrate employability and social skills relevant to careers.</li> </ol>
Connections
<ul style="list-style-type: none"> <li>• Kentucky Occupational Skill Standards/National Health Care Skill Standards</li> <li>• National Health Science Standards by the National Consortium for Health Science Education</li> <li>• HOSA-Future Health Professionals (<a href="http://www.hosa.org">www.hosa.org</a>)</li> <li>• American Heart Association/National Safety Council</li> <li>• American Red Cross/American Safety Health Institute (ASHI)</li> <li>• Occupational Safety and Health Administration Standards (OSHA)</li> <li>• Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)</li> <li>• Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards</li> <li>• Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement</li> </ul>



**Health and Wellness**  
**Valid Course Code: 170172**

**Course Description:** Promotion of a healthy lifestyle through proper nutrition, physical activity, and lifestyle choices. Emphasis on holistic health care and the health care industry.

**Content/Process**

**Students will:**

1. Identify and define terms related to wellness and holistic health and discuss lifestyle choices that affect wellness.
2. Examine economic, social, cultural, and religious influences on wellness.
3. Define health, physical health and physical fitness, including what is required for optimal physical health and physical fitness.
4. Identify essential facts of required nutrients Keep a food diary and determine if nutritional needs are being met.
5. Describe alternative methods to supplement dietary needs.
6. Describe variations of normal dietary needs throughout the life cycle, including factors that influence energy requirements.
7. Describe eating disorders and ways to manage a healthy weight.
8. Determine your own ideal weight and devise a plan to maintain or attain your ideal weight.
9. Evaluate various types of physical activities and factors to be considered in a conditioning program.
10. Evaluate the importance of warm-up and cool-down periods with exercising.
11. Describe physical and mental benefits of physical activity and describe the relationship between physical fitness and the risk of health problems.
12. Describe steps to follow in starting a personal fitness regime and plan and carry out a personal fitness regime for the duration of this course.
13. Discuss the importance of sleep and identify the amount needed.
14. Discuss varying sleep disorders and associated health problems resulting from sleep deprivation.
15. Discuss how to get a good night's sleep.
16. Define mental health and mental illness.
17. Discuss the mind-body connection in maintaining wellness.
18. Discuss stress and ways to manage stress that will restore mind-body harmony.
19. Explore Alternative and Complementary Medicines.
20. Identify leading causes of death and expected lifespan. Using a life expectancy calculator calculate your own life expectancy.
21. Describe family development stages, and how the family influences health promotion practices.
22. Describe the developmental theories of Erikson, Piaget, Havighurst, and Kohlberg.
23. Explain the basic principles of growth and development as they relate to the life span.
24. Summarize major physiologic, cognitive and psychosocial development for each period beginning with conception and ending with older adulthood.
25. Describe common health problems relative to specific stages of growth and development.

<p>26. Discuss the concepts of death and dying as they relate to the family and different age groups.</p> <p>27. Utilize activities of HOSA-Future Health Professionals as an integral component and leadership development.</p>
<b>Connections</b>
<ul style="list-style-type: none"> <li>• Kentucky Occupational Skill Standards/National Health Care Skill Standards</li> <li>• National Health Science Standards by the National Consortium for Health Science Education</li> <li>• HOSA-Future Health Professionals (<a href="http://www.hosa.org">www.hosa.org</a>)</li> <li>• Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)</li> <li>• Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards</li> <li>• Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement</li> </ul>

## Holistic Health

**Valid Course Code: 170168**

**Course Description:** Course focus is promotion of health through assessment of individuals' growth and development across the life span through proper nutrition, physical activity, and lifestyle choices. Consideration is given to the family, cultural, environmental, spiritual, and genetic influences when meeting basic human needs. Emphasis is placed on holistic health care in the health care industry.

### Content/Process

**Students will:**

1. Investigate factors that influence personal behaviors that impact growth and wellness.
2. Research effective interpersonal communication skills that facilitate healthy relationships.
3. Define and develop instruments to evaluate lifestyle practices including behavioral choices, nutrition, physical activity and safety to promote optimal physical health and fitness such as eating disorders and weight management.
4. Investigate emergency plans and strategies for disaster situations.
5. Understand the impact of communicable diseases and common diseases on a healthy lifestyle.
6. Investigate factors that influence mental and emotional well-being such as stress, abusive behaviors, peer pressure, etc.
7. Research and devise a plan to maintain emotional, physical, and mental health including various types of physical activity, sleep, and rest.
8. Compare available community resources and services to promote a healthier lifestyle.
9. Investigate factors that influence consumer decision making such as advertising techniques and nutritional analysis.
10. Investigate various stages of human growth and development as related to the individual and family.
11. Compare and contrast developmental theories as they relate to health promotion and basic human needs.
12. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
13. Use information technology applications as appropriate to health.
14. Integrate literacy and numeracy concepts and processes across all curricular units.
15. Identify and describe the essential facts of required nutrients and alternative methods to supplement dietary needs and variations of dietary needs throughout the life cycle.
16. Explore alternative and complementary medicines.
17. Examine economic, social, cultural, and religious influences on wellness.
18. Identify essential facts related to nutrition such as keeping a food diary to determine if nutritional needs are being met, analyzing alternative methods to supplement dietary needs, discussing variations of normal dietary needs throughout the life cycle, and discussing factors that influence energy requirements.
19. Describe eating disorders.

20. Describe how to manage a healthy weight by determining your own ideal weight and devising a plan to maintain or attain your ideal weight.
21. Describe steps to follow in starting a personal fitness regime and plan and carry out a personal fitness regime for the duration of this course.
22. Discuss the importance of sleep, identify the amount needed, research sleep disorders and health problems resulting from sleep deprivation, and discuss the importance of adequate sleep and rest.
23. Define mental health and mental illness and discuss the mind-body connection to maintaining wellness.

#### **Connections**

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement

## Medical Math

**Valid Course Code: 170169**

**Course Description:** This course is designed to focus, utilize and build on mathematical skills commonly used in all health occupations. Students will use applied techniques, problem-solving and critical thinking to perform mathematical operations such as computations, ratio and proportion, weights and measurements and conversions. This course is strongly recommended for all Health Science majors. Successful completion of Algebra I is suggested prior to enrolling in this course. This course may meet the requirements for the fourth elective mathematics credit required for graduation with an allied health major.

### Content/Process

**Students will:**

1. Perform fundamental arithmetic operations on whole numbers, fractions, decimals and percent for accuracy and speed.
2. Understand mathematical procedures and use them appropriately.
3. Accurately calculate oral and parenteral dosages.
4. Relate mathematics to activities in health science and discuss the importance of a thorough understanding of mathematics to a successful career in the health profession.
5. Perform conversions with accuracy interchanging apothecary, metric, and household systems.
6. Analyze and compare over-the-counter medications as to the number of doses and unit price.
7. Observe and record the ways measurement is used in a medical laboratory.
8. Describe and perform steps in dosage calculations of oral and parenteral medications.
9. Describe and perform steps in dosage calculations in pediatric dosage calculations.
10. Describe and perform concepts of IV therapy calculation.
11. Use various types of graphs to interpret and analyze information.
12. Organize information using classification rules and systems (e.g. symbols, abbreviations, Roman numerals).
13. Estimate values for operations involving decimals and cognitively compute the results.
14. Represent fractions as ratios in simplest form.
15. Represent numbers in scientific notation.
16. Demonstrate knowledge of measurement systems and conversion principles.
17. Perform addition, subtraction, multiplication, and division of signed numbers.
18. Relate words to algebraic expressions.
19. Set up and solve proportions.
20. Find the mean, median, and mode for a group of values.
21. Use the 24-hour clock (military time).
22. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
23. Use information technology applications as appropriate to health care specialties.
24. Integrate literacy and numeracy concepts and processes across all curricular units.
25. Demonstrate employability and social skills relevant to health careers.

### Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—FHM 100 or KCTCS course determined through local dual/articulation agreement

## Medical Terminology I

**Valid Course Code: 170131**

<p><b>Course Description:</b> Medical Terminology is designed to develop a working knowledge of language in all health science major areas. Students acquire word-building skills by learning prefixes, suffixes, roots and abbreviations. Students will learn correct pronunciation, spelling and application rules. By relating terms to body systems, students identify proper use of words in a medical environment. Knowledge of medical terminology enhances the student's ability to successfully secure employment or pursue advanced education in health care.</p>
<p><b>Content/Process</b></p>
<p><b>Students will:</b></p> <ol style="list-style-type: none"> <li>1. Arrange word roots, prefixes, and suffixes to form medical terms.</li> <li>2. Categorize word parts by body systems.</li> <li>3. Interpret terms relating to all major body systems.</li> <li>4. Correlate origin of terms to other languages.</li> <li>5. Identify medical acronyms, homonyms and eponyms.</li> <li>6. Recognize and define plural forms of medical terms.</li> <li>7. Access resources to enhance understanding of medical terms.</li> <li>8. Identify and use common medical abbreviations.</li> <li>9. Relate medical terms to normal anatomy, growth and development, diagnostic procedures, pharmacology, surgery, mental health and medical specialties.</li> <li>10. Compare the use of medical terms in the media and real-life situations.</li> <li>11. Pronounce medical terms.</li> <li>12. Demonstrate employability and social skills relevant to health careers.</li> <li>13. Use medical terminology within a scope of practice in order to interpret, transcribe and communicate information, data and observations.</li> <li>14. Recognize and define suffixes that denote noun, adjective, singular, and plural forms of medical words.</li> <li>15. Categorize major prefixes in the following groups: position, number, measurement, negation, direction, and other prefixes.</li> <li>16. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.</li> <li>17. Use information technology applications as appropriate to health care specialties.</li> <li>18. Integrate literacy and numeracy concepts and processes across all curricular units.</li> </ol>
<p><b>Connections</b></p>
<ul style="list-style-type: none"> <li>• Kentucky Occupational Skill Standards/National Health Care Skill Standards</li> <li>• National Health Science Standards by the National Consortium for Health Science Education</li> <li>• HOSA-Future Health Professionals (<a href="http://www.hosa.org">www.hosa.org</a>)</li> <li>• Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)</li> <li>• Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards</li> <li>• Post-Secondary Connection—KCTCS AHS 120 for completion of the .5 credit course <b>OR</b> AHS 115 for completion of the 1 credit course</li> </ul>

## Medical Terminology II

Valid Course Code: 170132

<p><b>Course Description:</b> A course designed to develop a working knowledge of language in all health science major areas. Students acquire word-building skills by learning prefixes, suffixes, roots and abbreviations. Students will learn correct pronunciation, spelling and application rules. By relating terms to body systems, students identify proper use of words in a medical environment. Knowledge of medical terminology enhances the student's ability to successfully secure employment or pursue advanced education in health care.</p>
<p><b>Content/Process</b></p>
<p><b>Students will:</b></p> <ol style="list-style-type: none"> <li>1. Arrange word roots, prefixes, and suffixes to form medical terms.</li> <li>2. Categorize word parts by body systems.</li> <li>3. Interpret terms relating to all major body systems.</li> <li>4. Correlate origin of terms to other languages.</li> <li>5. Identify medical acronyms, homonyms and eponyms.</li> <li>6. Recognize and define plural forms of medical terms.</li> <li>7. Access resources to enhance understanding of medical terms.</li> <li>8. Identify and use common medical abbreviations.</li> <li>9. Relate medical terms to normal anatomy, growth and development, diagnostic procedures, pharmacology, surgery, mental health and medical specialties.</li> <li>10. Compare the use of medical terms in the media and real-life situations.</li> <li>11. Pronounce medical terms.</li> <li>12. Demonstrate employability and social skills relevant to health careers.</li> <li>13. Use medical terminology within a scope of practice in order to interpret, transcribe and communicate information, data and observations.</li> <li>14. Recognize and define suffixes that denote noun, adjective, singular, and plural forms of medical words.</li> <li>15. Categorize major prefixes in the following groups: position, number, measurement, negation, direction, and other prefixes.</li> <li>16. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.</li> <li>17. Use information technology applications as appropriate to health care specialties.</li> <li>18. Integrate literacy and numeracy concepts and processes across all curricular units</li> </ol>
<p><b>Connections</b></p>
<ul style="list-style-type: none"> <li>• Kentucky Occupational Skill Standards/National Health Care Skill Standards</li> <li>• National Health Science Standards by the National Consortium for Health Science Education</li> <li>• HOSA-Future Health Professionals (<a href="http://www.hosa.org">www.hosa.org</a>)</li> <li>• Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)</li> <li>• Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards</li> <li>• Post-Secondary Connection—KCTCS AHS 115</li> </ul>



## Principles of Health Science

### Valid Course Code: 170111

<p><b>Course Description:</b> Principles of Health Science is an orientation and foundation for occupations and functions in any health care profession. The course includes broad health care core standards that specify the knowledge and skills needed by the vast majority of health care workers. The course focuses on exploring health career options, history of health care, ethical and legal responsibilities, leadership development, safety concepts, health care systems and processes and basic health care industry skills. This introductory course may be a prerequisite for additional courses in the Health Science program.</p>
<p style="text-align: center;"><b>Content/Process</b></p> <p><b>Students will:</b></p> <ol style="list-style-type: none"> <li>1. Analyze and interpret medical milestones, conditions, trends and issues to develop historical perspectives about the health care industry.</li> <li>2. Explore the organizational structure of various health care facilities.</li> <li>3. Observe, analyze and interpret human behaviors, social groupings and institutions to better understand people and the relationship among individuals and among groups.</li> <li>4. Identify how key systems affect services performed and the quality of health care.</li> <li>5. Describe ethical practices with respect to cultural, social and ethnic differences within the health care environment.</li> <li>6. Recognize legal responsibilities, limitations and the implications of actions within the health care industry and manage professional behavior accordingly (specifically related to HIPAA regulations).</li> <li>7. Evaluate services, products, and resources available in the community and state in order to make effective consumer decisions.</li> <li>8. Follow health and safety policies and procedures to prevent injury or illness through safe work practices.</li> <li>9. Understand the roles and responsibilities of the health care team and interact effectively with all team members.</li> <li>10. Explore Maslows' Hierarchy of Needs.</li> <li>11. Recognize an acceptable Code of Conduct for a health care worker.</li> <li>12. Use strategies for choosing and preparing for a career in the health care industry.</li> <li>13. Apply methods of giving and obtaining information to communicate effectively, both orally and in writing.</li> <li>14. Demonstrate skills and work habits that lead to success in future schooling and work.</li> <li>15. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.</li> <li>16. Use information technology applications as appropriate to health care specialties.</li> <li>17. Integrate literacy and numeracy concepts and processes across all curricular units.</li> <li>18. Demonstrate key employability skills (e.g. interviewing, writing resumes, and completing applications) needed for further education or employment.</li> </ol>
<p style="text-align: center;"><b>Connections</b></p> <ul style="list-style-type: none"> <li>• Kentucky Occupational Skill Standards/National Health Care Skill Standards</li> <li>• National Health Science Standards by the National Consortium for Health Science Education</li> <li>• HOSA-Future Health Professionals (<a href="http://www.hosa.org">www.hosa.org</a>)</li> </ul>

- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement

FINAL DRAFT

## **Health Science – Allied Health**

## Allied Health Core Skills

### Valid Course Code: 170501

**Course Description:** Allied Health Core Skills is designed to provide knowledge, concepts and psychomotor skills necessary for gainful employment as an entry-level health care worker. Assisting students in selecting a career major, classroom instruction and educational objectives are combined with learning experiences, observations, and a work-based learning opportunity such as internship, shadowing, or clinical rotation. This course is designed for students not enrolled in the Medicaid Nurse Aide program.

*Prerequisites: Principles of Health Science – 170111*

*Medical Terminology – 170131*

*Emergency Procedures - 170141 or Permission of Instructor*

#### Content/Process

##### Students will:

1. Develop and practice effective oral and written communication skills.
2. Understand the roles and responsibilities of individual members of the health care team.
3. Prepare supplies, equipment and client for procedures according to facility protocol.
4. Use accepted ethical practices with respect to cultural, social and ethnic differences.
5. Discuss legal responsibilities, limitations, and the implications of actions within the health care delivery setting.
6. Examine how key systems relate to the services performed and affect the quality of client care.
7. Prevent injury or illness through safe work practices and following health and safety policies and procedures.
8. Demonstrate professional etiquette and responsibility.
9. Demonstrate knowledge of applicable laws, statutes or regulations in the career major area.
10. Demonstrate performance skills as outlined on approved internship competency list.
11. Assess client health status according to respective professional standards and report results to treatment team.
12. Demonstrate the effective use of time management skills.
13. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
14. Use information technology applications as appropriate to health care specialties.
15. Integrate literacy and numeracy concepts and processes across all curricular units.
16. Demonstrate employability and social skills relevant to health careers.
17. Explore individual health care careers.
18. Demonstrate skills related to specific health professions.

#### Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)

- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement

FINAL DRAFT

**Internship: Advanced Allied Health Core Skills**  
**Valid Course Code: 170521**

**Course Description:** Internship: Advanced Allied Health Core Skills is an expanded practical application of health care skills integrated and enriched for the refinement of academic skills. Following successful completion of the Allied Health Core Skills or Medicaid Nurse Aide course, the student will choose a work-based learning environment in a concentrated area of study and skill development. The course includes a culminating project based on the selected area of study. A work-based internship is designed to complement the classroom instruction. Students will be required to follow agency requirements for attendance and health screenings. (These may include but are not limited to: drug screens, TB skin test, and immunization certificates). Prerequisite courses are Principles of Health Science (1 credit), Medical Terminology I or II (0.5 credits each), and Emergency Procedures (0.5 credit).

**Content/Process**

**Students will:**

1. Adhere to all regulations/guidelines outlined by HIPAA.
2. Gain career awareness and the opportunity to test career major choices(s).
3. Name credentialing agencies for careers related to career major.
4. Trace the organizational structure of the career major and affiliating agency.
5. Research the history and rationale of career major specialty.
6. Identify the different specialties in the career major.
7. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
8. Research common diseases or problems associated with career major.
9. Receive work experience related to the designated area of study prior to graduation.
10. Integrate classroom studies with work experience.
11. Receive exposure to facilities and equipment unavailable in a classroom setting.
12. Increase employability potential after graduation.
13. Demonstrate performance skills related to the designated career.
14. Demonstrate knowledge of first aid, safety and CPR as they relate to the area.
15. Demonstrate professional etiquette and responsibilities.
16. Demonstrate effective communication skills.
17. Practice team building concepts.
18. Demonstrate effective use of time management skills.
19. Incorporate use of related medical terminology and theory related to the designated career area.
20. Demonstrate correct observation skills.
21. Perform procedures to prevent disease transmission, utilizing OSHA, CDC regulations, and universal precautions.
22. Recognize and provide environmental, personal, and client safety.
23. Complete a training plan in conjunction with internship employer.
24. Develop a financial plan to allocate funds for personal, education and/or professional expenses.
25. Investigate employment opportunities and responsibilities of health care workers.
26. Develop work habits necessary for individual maturity and job competence.
27. Interact successfully with co-workers, supervisors and classmates.
28. Create a plan for productive time management.

29. Interpret instructional manuals.
30. Discuss articles from professional journals.
31. Create an acceptable work-related report.
32. Formulate a plan for post-secondary education.
33. Prepare a written and oral culminating report based on experiences in health science program.
34. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
35. Use information technology applications as appropriate to health care specialties.
36. Integrate literacy and numeracy concepts and processes across all curricular units.
37. Demonstrate employability and social skills relevant to health careers.

#### **Connections**

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement

**Internship: Allied Health**  
**Valid Course Code: 170550**

**Course Description:** The internship provides supervised on-the-job work experience related to the students' education objectives. Work-based learning is designed to complement the classroom instruction. Students will be required to follow program and agency requirements for attendance and health screenings. These may include but are not limited to: drug screens, TB skin test, and immunization certificates.

*Prerequisites: Principles of Health Science – 170111*

*Medical Terminology – 170131*

*Emergency Procedures - 170141 or Permission of Instructor*

*This course may be repeated to accommodate multiple experiences in a variety of health care settings.*

**Content/Process**

**Students will:**

1. Gain career awareness and the opportunity to test career major choices(s).
2. Name credentialing agencies for careers related to career major.
3. Trace the organizational structure of the career major and affiliating agency.
4. Research the history and rationale of career major specialty.
5. Identify the different specialties in the career major.
6. Review theory related to career pathway.
7. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
8. Research common diseases or problems associated with career major.
9. Receive work experience related to the career major prior to graduation.
10. Integrate classroom studies with work experience.
11. Receive exposure to facilities and equipment unavailable in a classroom setting.
12. Increase employability potential after graduation.
13. Demonstrate performance skills related to the career major area.
14. Demonstrate knowledge of first aid and CPR as they relate to the area.
15. Demonstrate professional etiquette and responsibilities.
16. Demonstrate effective communication skills.
17. Practice team building concepts.
18. Demonstrate effective use of time management skills.
19. Incorporate use of related medical terminology and theory related to the career major.
20. Demonstrate correct observation skills.
21. Demonstrate proper use of the telephone, communication system, copying, and faxing.
22. Recognize and provide environmental, personal, and patient safety.

**Connections**

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)



- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement

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## Internship: Child Care Worker

### Valid Course Code: 170551

**Course Description:** The practicum provides supervised on-the-job work experience related to the students' education objectives in the area of child care. Students participating in the practicum do not receive compensation.

*Students must have completed three courses in the Health Science program or have special permission from the Health Science teacher.*

#### Content/Process

##### Students will:

1. Gain career awareness and the opportunity to test career major choices(s).
2. Name credentialing agencies for careers related to career major.
3. Trace the organizational structure of the career major and affiliating agency.
4. Research the history and rationale of career major specialty.
5. Identify the different specialties in the career major.
6. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
7. Research common diseases or problems associated with career major.
8. Receive work experience related to child care worker career prior to graduation.
9. Integrate classroom studies with work experience.
10. Receive exposure to facilities and equipment unavailable in a classroom setting.
11. Increase employability potential after graduation.
12. Demonstrate performance skills related to the Child Care Worker career.
13. Demonstrate knowledge of first aid and CPR as they relate to the area.
14. Demonstrate professional etiquette and responsibilities.
15. Demonstrate effective communication skills.
16. Practice team building concepts.
17. Demonstrate effective use of time management skills.
18. Incorporate use of related medical terminology and theory related to the Child Care Worker.
19. Demonstrate correct observation skills.
20. Recognize and provide environmental, personal, and child safety.
21. Demonstrate a knowledge of safety rules for small children.
22. Demonstrate and teach poison prevention.
23. Assist in protecting from injury.
24. Relate first aid and CPR training to infants and small children.

#### Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement

## Internship: Dental Assistant

### Valid Course Code: 170552

**Course Description:** This course is designed to assist students with developing skills needed to be successful dental assistants and responsible members of the health care society. The students will develop skills performed by the dental assistant. Work-based learning is designed to complement the classroom instruction. Students will be required to follow program and agency requirements for attendance and health screenings. These may include but are not limited to: drug screens, TB skin test, and immunization certificates.

*Prerequisites: Principles of Health Science – 170111*

*Medical Terminology – 170131*

*Emergency Procedures - 170141 or Permission of Instructor*

#### Content/Process

**Students will:**

1. Use correct dental terminology when describing the teeth or landmarks of the teeth.
2. Name the universal codes for each tooth in the permanent teeth.
3. Provide the current location of each permanent tooth.
4. Identify and describe oral lesions.
5. Demonstrate procedures for performing hard tissue charting and accurately record the findings.
6. Demonstrate process of performing extraoral and intraoral examinations and record the findings.
7. Explain the process of tooth decay and the various stages.
8. List three types of dental delivery systems.
9. Apply the principles of chair side assisting to each specialty area.
10. Define pediatric dentistry and procedures common to this specialty.
11. Identify the role of the dental assistant in pediatric dentistry.
12. Discuss effective management of the pediatric patient in the dental operator.
13. Describe the design of a dental treatment room.
14. List the type of dental equipment in a dental treatment room and their function.
15. Describe how to prepare a dental treatment room for patient treatment.
16. Describe the positioning of the patient and dental team.
17. Describe the principles of transferring and exchanging instruments.
18. Describe the three parts of a dental hand instrument.
19. List the types of hand cutting instruments and their uses.
20. List the types of restorative instruments and their uses.
21. Describe additional accessory instruments used in dentistry.
22. Describe the use of preset trays and tubs.
23. List instruments and supplies contained in a basic setup.
24. Describe the low speed hand piece.
25. Describe the attachments used on the low speed hand piece.
26. Describe the high speed hand piece and its use.
27. Describe rotary instruments and how they are used.
28. List the parts of a bur.
29. Demonstrate procedures used in moisture control.

30. Demonstrate the grasp and positioning of the dental assistant when using the high volume oral evacuator tip.
31. Demonstrate the use of the air water syringe.
32. Correctly follow tooth selection criteria for sealant placement.
33. Discuss/demonstrate accepted sequence in sealant placement.
34. Process exposed intraoral and extraoral dental radiographs.
35. Clean x-ray processing equipment.
36. Mount and label radiographs.
37. Prepare radiographs for legal requirements, viewing and filing.
38. Maintain radiographic equipment.
39. Provide patient safety measures and educate patient in radiographic safety.
40. Practice operator safety measures.
41. Monitor personal radiation exposure.
42. Identify principles and functions of extraoral dental.
43. Expose extraoral dental radiographs.
44. Interpret common conditions found on intraoral and extraoral dental radiographs.
45. Mount and label radiographs.
46. Prepare radiographs for legal requirements viewing and filing.
47. Select appropriate dental film.
48. Prepare/assist with temporary crowns.
49. Apply pit and fissure sealants.
50. Prepare, mix, transfer and store restorative materials.
51. Prepare, mix, transfer and store sedative/palliative materials.
52. Select, manipulate and store impression materials.
53. Apply OSHA safety measures when using toxic dental materials or irritants.
54. Prepare, mix, transfer and store impression materials.
55. Select, manipulate and store gypsum products.
56. Take impressions for study casts.
57. Fabricate and evaluate diagnostic casts.
58. Articulate casts.
59. Fabricate custom impression trays.
60. Apply safety measures when using gypsum materials.
61. Place, carve and finish amalgam restorations.

#### **Connections**

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement

## Internship: Dietetic Technician

### Valid Course Code: 170553

**Course Description:** The internship provides supervised on-the-job work experience related to the students' education objectives in the area of Dietetic Technician. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

#### Content/Process

**Students will:**

1. Adhere to all regulations/guidelines outlined by HIPAA.
2. Gain career awareness and the opportunity to test career major choice(s).
3. Name credentialing agencies for careers related to career major.
4. Trace the organizational structure of the career major and affiliating agency.
5. Research the history and rationale of career major specialty.
6. Identify the different specialties in the career major.
7. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
8. Research common diseases or problems affected by or treated by diet.
9. Receive work experience related to the Dietetic Technician worker career prior to graduation.
10. Integrate classroom studies with work experience.
11. Receive exposure to facilities and equipment unavailable in a classroom setting.
12. Increase employability potential after graduation.
13. Demonstrate performance skills related to the Dietetic Technician career.
14. Demonstrate knowledge of first aid, safety and CPR as they relate to the area.
15. Demonstrate professional etiquette and responsibilities.
16. Demonstrate effective communication skills.
17. Practice team building concepts.
18. Demonstrate effective use of time management skills.
19. Incorporate use of related medical terminology and theory related to the Dietetic Technician.
20. Demonstrate correct observation skills.
21. Perform procedures to prevent disease transmission, utilizing OSHA, CDC regulations, and universal precautions.
22. Recognize and provide environmental, personal, and patient safety.
23. Demonstrate proper use of communication technology (phone, internet, etc.) used in the career area.
24. Demonstrates knowledge of standard weights and measurements.
25. Identify all types of diets.
26. Prepare serving counter for client food service.
27. Serve food at assigned station throughout serving period.
28. Clear counter of food at end of serving period.

29. Identify procedures to be used in delivering trays to clients in isolation.
30. Deliver food carts to proper stations.
31. Deliver and serve food trays.
32. Set up clients' food trays.
33. Pour liquids for meals.
34. Pick up patients' trays and chart amount consumed.
35. Pick up carts from floors.
36. Return trays to serving line.
37. Prepare and serve dietary supplements.
38. Prepare simple foods.
39. Identify and assist in preparing special diets.
40. Prepare hot and cold beverages.
41. Assist clients in filling out menus.
42. Collect client menus.
43. Scrape food from dishes into garbage disposal.
44. Place flatware in soak sink.
45. Put paper and plastic items in proper containers.
46. Send dishes, glassware, flatware, water pitchers, and trays through dishwashing machine.
47. Place clean dishes in proper carrier and return to cafeteria serving areas.
48. Return flatware in cylinders to serving area.
49. Restock isolation trays, flatware, and plastic bags.
50. Assemble serving utensils.
51. Wrap flatware.
52. Rinse and stack all soiled dishes.
53. Wash and rinse soiled pots and pans.
54. Collect garbage from all dietary areas.
55. Perform assigned cleaning duties.
56. Collect and place garbage and trash in designated containers.
57. Restock shelves.
58. Requisition supplies.
59. Complete inventory.
60. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
61. Use information technology applications as appropriate to health care specialties.
62. Integrate literacy and numeracy concepts and processes across all curricular units.
63. Demonstrate employability and social skills relevant to health careers.

#### **Connections**

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards

- Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement

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## Internship: Dispensing Optician

### Valid Course Code: 170554

**Course Description:** The internship provides supervised on-the-job work experience related to the students' education objectives in the area of Dispensing Optician. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

#### Content/Process

**Students will:**

1. Adhere to all regulations/guidelines outlined by HIPAA.
2. Gain career awareness and the opportunity to test career major choices(s).
3. Name credentialing agencies for careers related to career major.
4. Trace the organizational structure of the career major and affiliating agency.
5. Research the history and rationale of career major specialty.
6. Identify the different specialties in the career major.
7. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
8. Research common diseases or problems associated with career major.
9. Receive work experience related to the Dispensing Optician career prior to graduation.
10. Integrate classroom studies with work experience.
11. Increase employability potential after graduation.
12. Receive exposure to facilities and equipment unavailable in a classroom setting.
13. Demonstrate performance skills related to the Dispensing Optician career.
14. Demonstrate knowledge of first aid and CPR as they relate to the area.
15. Demonstrate professional etiquette and responsibilities.
16. Demonstrate effective communication skills.
17. Practice team building concepts.
18. Demonstrate effective use of time management skills.
19. Incorporate use of related medical terminology and theory related to the Dispensing Optician career.
20. Demonstrate correct observation skills.
21. Perform procedures to prevent disease transmission, utilizing OSHA, CDC regulations, and standard precautions.
22. Recognize and provide environmental, personal, and staff safety.
23. Demonstrate proper use of communication technology (phone, internet, etc.) used in the career area.
24. Greet and dismiss patients and visitors.
25. Process walk-in patients.
26. Obtain new patient information (registration form).
27. Compile charts for scheduled patients.
28. Make appointment for patient with another physician, e.g. consultant.



29. Provide name and number of another physician for consultation, referral.
30. Verify patient appointments.
31. Call patients to reschedule appointments.
32. Schedule follow-up visits.
33. Maintain system for reminding patients of routine re-examination.
34. Record failed/canceled appointments.
35. Follow-up on patients who do not keep appointments.
36. Check tape on phone answering machine, if applicable.
37. Check with answering service, if applicable.
38. Explain doctor's unavailability to patients in waiting room.
39. Assist with client services.
40. Deal with sales/detail representatives.
41. Answer questions related to office protocol or procedures.
42. Make current periodicals available to patients.
43. Maintain inventory.
44. Order office supplies.
45. Replenish physician's desk supplies.
46. Order and verify contact lenses.
47. Order frame, lenses, and medications.
48. Assist in posting of patient's charges, payments, and issuing of receipts.
49. Assist with making bank deposits.
50. Select correct class of postage.
51. Operate postage meter, if available.
52. Post mailing.
53. Process incoming mail.
54. File charts; both electronic and paper.
55. Identify equipment and supplies used.
56. Escort patient to appropriate examination/treatment room with instructions.
57. Assist the handicapped/ill patients.
58. Assist in screening patients for visual acuity, near and far.
59. Assist in screening patients for visual acuity, depth perception.
60. Assist in screening patients for visual acuity, color perception.
61. Assist in screening patients for visual acuity, macula integrity.
62. Operate visual field machine.
63. Edge and insert lenses into frame, tint lenses to patient specifications.
64. Assist with frame selection, dispensing, adjusting, and repairs.
65. Observe performance of tonometry test.
66. Utilize disinfection procedures for cleaning instruments.
67. Keep physician's office/reception area tidy.
68. Keep waiting room tidy.
69. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.
70. Use information technology applications as appropriate to health care specialties.
71. Integrate literacy and numeracy concepts and processes across all curricular units.
72. Demonstrate employability and social skills relevant to health careers.

### **Connections**

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement

## Internship: EKG Technician

Valid Course Code: 170555

**Course Description:** The internship provides supervised work site experience related to the student's education objectives in the area of EKG technician. Upon completion of the internship, students are eligible to take the EKG Technician Certification examination. Work-based learning is designed to complement the classroom instruction. Students will be required to follow program and agency requirements for attendance and health screenings. These may include but are not limited to: drug screens, TB skin test, and immunization certificates.

A Memorandum of Agreement must be completed for all clinical sites. The clinical portion of this course requires 100 hours of experience within a hospital, clinic, or physician's office.

*Prerequisites: Principles of Health Science – 170111*

*Medical Terminology – 170131*

*Emergency Procedures - 170141 or Permission of Instructor*

### Content/Process

**Students will:**

1. Calculate a patient's heart rate from the EKG tracing (e.g., 6-second method, R to R, sequencing).
2. Identify artifacts from the tracing (e.g., wandering baseline, somatic, electrical).
3. Resolve artifacts from the tracing (e.g., wandering baseline, somatic, electrical).
4. Record an EKG lead on a patient (3-lead, 5-lead, 12-lead).
5. Verify the leads recorded on an EKG.
6. Upload a completed EKG to a patient's electronic medical record.
7. Mount a completed EKG for a patient's chart.
8. Measure a patient's heart rhythm from the EKG tracing.
9. Inspect the waveforms of a cardiac cycle for symmetry, direction, and amplitude (e.g., P waves, QRS Complexes, ST segments, T waves).
10. Measure a patient's heart conduction from the EKG tracing (e.g., PR-interval (PRI), QRS duration, QT-interval).
11. Identify the major classifications of arrhythmias from the EKG tracing (e.g., sinus, atrial, ventricular, and junctional).
12. Identify the major variances to waveforms related to ischemia, injury, or infarction.
13. Respond to potentially life threatening arrhythmias.
14. Verify EKG machine paper speed (e.g., 25mm, 50mm).
15. Verify EKG machine sensitivity (e.g., h, 1, 2).
16. Maintain EKG equipment and the work environment.
17. Recognized pacemaker spikes on an EKG trace.
18. Prepare the patient for EKG monitoring, Holter monitoring, stress testing, and telemetry monitoring (e.g., patient history, cardiac medications, patient positioning).
19. Apply electrodes on patients for EKG, Holter monitoring, stress testing, telemetry, pediatric patients, and patients with special considerations (e.g., right sided heart, posterior chest, amputations).

20. Respond to signs and symptoms of cardiopulmonary compromise
21. Adhere to HIPAA regulations regarding Protected Health Information (PHI).
22. Monitor patient condition during stress testing.
23. Respond to complications during stress testing.
24. Verify patient understanding of Holter monitor procedures.
25. Obtain patient vital signs (e.g., heart rate, respirations, temperature, blood pressure, pulse oximetry).
26. On an illustration, identify the structures of the heart and describe their function.
27. On an illustration, trace the flow of blood through the pulmonary and systemic circulatory systems.
28. Describe the electrophysiology of the heart and relate the events of cardiac conduction to the electrocardiogram.
29. Outline the process of electrocardiography.
30. Explain the purpose of measuring the standard 12 lead electrocardiogram.
31. List standards of calibrating and providing general maintenance of an electrocardiograph.
32. Explain the method and rationale for measuring the EKG/ECG in the exercising patient including safety hazards.
33. Evaluate the electrocardiogram for cardiac rate, rhythm, and the presence or absence of ectopic beats.
34. Recognize PAC's, atrial fibrillation, atrial flutter, PVC's, ventricular tachycardia, and ventricular fibrillation.
35. Recognize and describe the actions of various common cardiovascular agents.
36. Discuss arrhythmias and identify how to interpret those of the sinoatrial node, sinus tachycardia, sinus arrest, and sinus bradycardia.
37. Discuss first-degree and second-degree AV block and explain how they can be identified on the ECG/EKG.
38. Explain the difference between right and left bundle branch blocks and briefly define how each can be identified on an ECG/EKG.
39. Discuss the role of the ECG/EKG technician as it relates to patient care and recording of the ECG.
40. Identify and describe the various types of equipment and supplies used in monitoring and recording electrocardiograms.
41. Perform basic lead placement on the adult, pediatric, and neonatal patient.
42. Prepare and position patient for testing.
43. Attach electrodes to the patient's chest, arms, and legs, connect electrodes to leads from the EKG machine, and operate the machine to obtain a reading.
44. Explain testing procedures to patient to obtain cooperation and reduce anxiety.
45. Monitor patients' blood pressure and heart rate using electrocardiogram (EKG) equipment during diagnostic and therapeutic procedures to notify the physician if something appears wrong.
46. Monitor patients' comfort and safety during tests, alerting physician to abnormalities or changes in patient responses.
47. Observe gauges, recorder, and video screens of data analysis system during imaging of cardiovascular system.

48. Adjust equipment and controls according to physician's orders or established protocol. 49. Check, test, and maintain cardiology equipment. 50. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development. 51. Use information technology applications as appropriate to health care specialties. 52. Integrate literacy and numeracy concepts and processes across all curricular units. 53. Demonstrate employability and social skills relevant to health careers.
<b>Connections</b>
<ul style="list-style-type: none"> <li>• Kentucky Occupational Skill Standards/National Health Care Skill Standards</li> <li>• National Health Science Standards by the National Consortium for Health Science Education</li> <li>• HOSA-Future Health Professionals (<a href="http://www.hosa.org">www.hosa.org</a>)</li> <li>• Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)</li> <li>• Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards</li> <li>• Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement</li> </ul>

## Internship: Funeral Attendant

**Valid Course Code: 170568**

**Course Description:** The internship provides supervised on-the-job work experience related to the students' education objectives in the area of Funeral Attendant. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

### Content/Process

**Students will:**

1. Adhere to all regulations/guidelines outlined by HIPAA.
2. Gain career awareness and the opportunity to test career major choices(s).
3. Name credentialing agencies for careers related to career major.
4. Trace the organizational structure of the career major and affiliating agency.
5. Research the history and rationale of career major specialty.
6. Identify the different specialties in the career major.
7. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
8. Receive work experience related to the Funeral Attendant career prior to graduation.
9. Integrate classroom studies with work experience.
10. Receive exposure to facilities and equipment unavailable in the classroom setting.
11. Increase employability potential after graduation.
12. Demonstrate performance skills related to the Funeral Attendant career.
13. Demonstrate professional etiquette and responsibilities.
14. Demonstrate effective communication skills.
15. Practice team building concepts.
16. Demonstrate effective use of time management skills.
17. Incorporate use of related medical terminology/theory related to the Funeral Attendant.
18. Demonstrate correct observation skills.
19. Recognize and provide environmental, personal, and patient safety.
20. Perform procedures to prevent disease transmission, utilizing OSHA, CDC regulations, and standard precautions.
21. Describe basic similarities of funeral customs.
22. Demonstrates understanding of individual psychological needs and stages of grieving.
23. Demonstrates knowledge of funeral management.
24. Identifies various types of caskets.
25. Demonstrates general knowledge of chemicals used in the facility.
26. Demonstrates understanding of a staff member's ability to handle a "death call."
27. Demonstrates understanding of a staff member's duties and responsibilities while making a "first call."
28. Demonstrates knowledge of an "after service call."
29. Assist with general care of the deceased.

30. Places casket in parlor or chapel.
31. Directs or escorts mourners.
32. Assists to “close” casket.
33. Carries flowers to hearse or limousine.
34. Acts as a pallbearer.
35. Assists with general upkeep of the facilities.
36. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
37. Use information technology applications as appropriate to health care specialties.
38. Integrate literacy and numeracy concepts and processes across all curricular units.
39. Demonstrate employability and social skills relevant to health careers.

#### **Connections**

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement

## Internship: Health Science

### Valid Course Code: 170566

**Course Description:** The internship provides supervised on-the-job work experience related to the students' education objectives. Students participating in the internship do not receive compensation.

*Students must have three courses in the Health Science program or have special permission from the Health Science teacher.*

#### Content/Process

##### Students will:

1. Gain career awareness and the opportunity to test career major choices(s).
2. Name credentialing agencies for careers related to career major.
3. Trace the organizational structure of the career major and affiliating agency.
4. Research the history and rationale of career major specialty.
5. Identify the different specialties in the career major.
6. Review theory related to career cluster.
7. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
8. Research common diseases or problems associated with career major.
9. Receive work experience related to the career major prior to graduation.
10. Integrate classroom studies with work experience.
11. Receive exposure to facilities and equipment unavailable in a classroom setting.
12. Increase employability potential after graduation.
13. Demonstrate performance skills related to the career major area.
14. Demonstrate knowledge of first aid and CPR as they relate to the area.
15. Demonstrate professional etiquette and responsibilities.
16. Demonstrate effective communication skills.
17. Practice team building concepts.
18. Demonstrate effective use of time management skills.
19. Incorporate use of related medical terminology and theory related to the career major.
20. Demonstrate correct observation skills.
21. Demonstrate proper use of the telephone, intercom system, copying, and faxing.
22. Recognize and provide environmental, personal, and patient safety.

#### Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement



## Internship: Medical Assistant

### Valid Course Code: 170556

**Course Description:** The internship provides supervised on-the-job work experience related to the students' education objectives in the area of Medical Assistant. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

#### Content/Process

**Students will:**

1. Adhere to all regulations/guidelines outlined by HIPAA.
2. Gain career awareness and the opportunity to test career major choice(s).
3. Name credentialing agencies for careers related to career major.
4. Trace the organizational structure of the career major and affiliating agency.
5. Research the history and rationale of career major specialty.
6. Identify the different specialties in the career major.
7. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
8. Research common diseases or problems associated with career major.
9. Receive work experience related to the Medical Assistant career prior to graduation.
10. Integrate classroom studies with work experience.
11. Receive exposure to facilities and equipment unavailable in a classroom setting.
12. Increase employability potential after graduation.
13. Demonstrate performance skills related to the Medical Assistant Career.
14. Demonstrate knowledge of first aid, safety and CPR as they relate to the area.
15. Demonstrate professional etiquette and responsibilities.
16. Demonstrate effective communication skills.
17. Practice team building concepts.
18. Demonstrate effective use of time management skills.
19. Incorporate use of related medical terminology and theory related to the Medical Assistant career.
20. Demonstrate correct observation skills.
21. Perform procedures to prevent disease transmission utilizing OSHA, CDC regulations and universal precautions.
22. Recognize and provide environmental, personal, and patient safety.
23. Follow safety and emergency procedures.
24. Report unsafe conditions.
25. Demonstrate proper use of communication technology (phone, internet, etc.) used in the career area.
26. Demonstrate typing, medical transcription, and computer literacy skills.
27. Maintain appointment book according to protocol.
28. Verify patient appointments.
29. Call patients to reschedule appointments.

30. Maintain system for reminding patients of routine re-examination.
31. Make appointment for patient with another physician, e.g. consultation.
32. Complete and maintain patient medical treatment records.
33. File records accurately.
34. Use correct technique for correcting written errors.
35. Complete Medicare/Medicaid/private carrier insurance forms.
36. Retrieve information to use CPT and ICD code books and record on proper forms.
37. Record and keep record of all phone conversations.
38. Collect charts for patients to be seen each day.
39. Explain physician's unavailability to patients in waiting room.
40. Answer questions concerning physician's hours/qualifications/fees.
41. Handle emergency calls.
42. Keep waiting room and physician's office/reception area tidy.
43. Make current periodicals available to patients.
44. Order office supplies.
45. Replenish physician's desk supplies.
46. Assist in posting of patient's charges, payments, and issuing of receipts.
47. Route patients, on arrival, for scheduled lab work before seeing the physician.
48. Escort patient to appropriate examination/treatment area.
49. Assist the handicapped patient.
50. Measure and record vital signs, including height and weight.
51. Properly position and drape patient for various procedures.
52. Fill out requisitions for lab tests.
53. Observe or assist with glucometer readings, pro-times, hemoglobin and urinalysis.
54. Observe lab work being drawn.
55. Assist with EKG's.
56. Observe or assist in setting up for ultrasound.
57. Observe and assist in minor surgical procedures.
58. Assist in setting up for X-ray.
59. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
60. Use information technology applications as appropriate to health care specialties.
61. Integrate literacy and numeracy concepts and processes across all curricular units.
62. Demonstrate employability and social skills relevant to health careers.

#### **Connections**

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement

**Internship: Medical Laboratory Aide (Phlebotomist)**  
**Valid Course Code: 170567**

**Course Description:** The internship provides supervised on-the-job work experience related to the students' education objectives in the area of Medical Laboratory Aide/Phlebotomist. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. Work-based learning is designed to complement the classroom instruction. Students will be required to follow program and agency requirements for attendance and health screenings. These may include but are not limited to: drug screens, TB skin test, and immunization certificates.

A Memorandum of Agreement must be completed for all clinical sites. The clinical portion of this course requires 100 hours of experience within a hospital lab, clinical lab, or physician's office. Students must complete a minimum of 30 successful unaided venipuncture collections (or minimum requirement of the clinical site) and 10 successful unaided capillary collections.

*Prerequisites: Principles of Health Science – 170111*

*Medical Terminology – 170131*

*Emergency Procedures - 170141 or Permission of Instructor*

**Content/Process**

**Students will:**

1. Collect, transport, handle, and process blood and urine specimens for analysis.
2. Adhere to all regulations/guidelines outlined by HIPAA.
3. Gain career awareness and the opportunity to test career major choices(s).
4. Name credentialing agencies for careers related to career major.
5. Trace the organizational structure for the career major and affiliating agency.
6. Research the history and rationale of career major specialty.
7. Identify the different specialties in the career major.
8. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
9. Research common diseases or problems associated with career major.
10. Receive work experience related to the Medical Laboratory Aide/Phlebotomist career prior to graduation.
11. Integrate classroom studies with work experience.
12. Receive exposure to facilities and equipment unavailable in a classroom setting.
13. Demonstrate performance skills related to the Medical Laboratory Aide/Phlebotomist career.
14. Demonstrate knowledge of first aid and CPR as they relate to the area.
15. Demonstrate professional etiquette and responsibilities including effective communication skills.
16. Demonstrate effective use of time management and team building skills.
17. Demonstrate correct observation skills.
18. Perform procedures to prevent disease transmission utilizing OSHA, CDC regulations, and universal precautions.

19. Recognize and provide environmental, personal, and patient safety.
20. Follow safety and emergency procedures and explain the use of a safety shower and safety apparel.
21. Demonstrate proper use of communication technology (phone, internet, etc.) used in the career area.
22. Receive patients and visitors.
23. Observe, record, and report patient data.
24. Prepare accident and incident reports as necessary.
25. Assist with data entry and billing procedures.
26. Identify supplies and equipment commonly used in lab procedures.
27. Assist with quality control checks of equipment.
28. Log incoming and outgoing specimens.
29. Deliver supplies and lab specimens to designated areas.
30. Prepare specimens for shipment.
31. Maintain lab work surfaces and glassware using proper cleaning and safety procedures.
32. Use appropriate sterilization procedures.
33. Distribute supplies to appropriate laboratory section.
34. Maintain inventory.
35. Maintain, label, and store routine lab chemical solutions.
36. Differentiate between various kinds of collection tubes and anticoagulants.
37. Identify normal values for blood and urine.
38. Name the components of a complete blood count (CBC).
39. Collect fluid and/or tissue specimens using appropriate collection procedures.
40. Explain collection procedures to patients.
41. Match laboratory requisition forms to specimen tubes.
42. Document route of specimens from collection to laboratory analysis and diagnosis.
43. Assist and draw blood from capillaries by dermal puncture, such as heel or finger stick methods.
44. Assist and draw blood from veins by vacuum tube, syringe, or butterfly venipuncture methods.
45. Assist and draw blood from arteries, using arterial collection techniques.
46. Dispose of contaminated sharps, in accordance with applicable laws, standards, and policies.
47. Dispose of blood or other biohazard fluids or tissues, in accordance with applicable laws, standards, and policies.
48. Identify potential hazards in the lab.
49. Obtain a copy of MSDS sheets for materials used in the lab.
50. Demonstrate procedure for use of the eyewash station.
51. Organize and clean blood-drawing trays, ensuring that all instruments are sterile and all needles, syringes or related items are of first-time use.
52. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
53. Use information technology applications as appropriate to health care specialties.
54. Integrate literacy and numeracy concepts and processes across all curricular units.
55. Demonstrate employability and social skills relevant to health careers.

Connections
<ul style="list-style-type: none"><li>• Kentucky Occupational Skill Standards/National Health Care Skill Standards</li><li>• National Health Science Standards by the National Consortium for Health Science Education</li><li>• HOSA-Future Health Professionals (<a href="http://www.hosa.org">www.hosa.org</a>)</li><li>• Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)</li><li>• Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards</li><li>• Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement</li></ul>

## Internship: Occupational Therapy Aide

### Valid Course Code: 170569

**Course Description:** The internship provides supervised on-the-job work experience related to the students' education objectives in the area of Occupational Therapy Aide. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

#### Content/Process

**Students will:**

1. Adhere to all regulations/guidelines outlined by HIPAA.
2. Gain career awareness and the opportunity to test career major choices(s).
3. Name credentialing agencies for careers related to career major.
4. Trace the organizational structure of the career major and affiliating agency.
5. Research the history and rationale of career major specialty.
6. Identify the different specialties in the career major.
7. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
8. Research common diseases or problems associated with career major.
9. Receive work experience related to Occupational Therapy Aide career prior to graduation.
10. Integrate classroom studies with work experience.
11. Receive exposure to facilities and equipment unavailable in a classroom setting.
12. Increase employability potential after graduation.
13. Demonstrate performance skills related to the Occupational Therapy facility.
14. Demonstrate knowledge of first aid and CPR as they relate to the area.
15. Demonstrate professional etiquette and responsibilities.
16. Demonstrate effective communication skills.
17. Practice team building concepts.
18. Demonstrate effective use of time management skills.
19. Incorporate use of related medical terminology and theory related to the Occupational Therapy Aide.
20. Demonstrate correct observation skills.
21. Recognize and provide environmental, personal, and patient safety.
22. Perform procedures to prevent disease transmission, utilizing OSHA, CDC regulations, and standard precautions.
23. Demonstrate proper use of communication technology (phone, internet, etc.) used in the career area.
24. Schedule appointments for the patient.
25. Receive patients and visitors.
26. Prepare area and patient for treatment.
27. Observe, record, and report patient data.
28. Write reports concerning patient progress, attitudes, attendance and accomplishments.

29. Prepare accident and incident reports as necessary.
30. Maintain procedures for legal access to patient and/or records.
31. Assist with patient teaching as prescribed.
32. Reinforce instructions from other health professionals to patient and family.
33. Instruct patients and families in work, social, and living skills.
34. Instruct patients and families in skills to facilitate home and work adjustment to disability.
35. Provide assistance to the visually impaired patient.
36. Communicate with the hearing impaired patient.
37. Provide emotional and spiritual support for patient and family.
38. Set up equipment and supplies for treatment.
39. Maintain inventory of equipment, and educational supplies.
40. Evaluate equipment for service repair.
41. Arrange for maintenance and repair of equipment.
42. Clean, stock, and store equipment and supplies.
43. Supervise patients in choosing and completing work assignments or arts and crafts projects.
44. Evaluate the living skills and capacities of physically, developmentally, or emotionally disabled clients.
45. Assist occupational therapists in planning, implementing, and administering therapy programs to restore, reinforce, and enhance performance, using selected activities and special equipment.
46. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.
47. Use information technology applications as appropriate to health care specialties.
48. Integrate literacy and numeracy concepts and processes across all curricular units.
49. Demonstrate employability and social skills relevant to health careers.

#### **Connections**

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement

## Internship: Personal and Home Care Aide

Valid Course Code: 170557

**Course Description:** The internship provides supervised on-the-job work experience related to the students' education objectives in the area of Personal and Home Health Aide. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

### Content/Process

**Students will:**

1. Adhere to all regulations/guidelines outlined by HIPAA.
2. Gain career awareness and the opportunity to test career major choice(s).
3. Name credentialing agencies for careers related to career major.
4. Trace the organizational structure of the career major and affiliating agency.
5. Research the history and rationale of career major specialty.
6. Identify the different specialties in the career major.
7. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
8. Research common diseases or problems associated with career major.
9. Receive work experience related to the Personal and Home Health Aide career prior to graduation.
10. Integrate classroom studies with work experience.
11. Receive exposure to facilities and equipment unavailable in a classroom setting.
12. Increase employability potential after graduation.
13. Demonstrate performance skills related to the Personal and Home Health Aide career.
14. Demonstrate knowledge of first aid and CPR as they relate to the area.
15. Demonstrate professional etiquette and responsibilities.
16. Demonstrate effective communication skills.
17. Practice team building concepts.
18. Demonstrate effective use of time management skills.
19. Incorporate use of related medical terminology and theory related to the Personal and Home Health Aide career.
20. Demonstrate correct observation skills.
21. Perform procedures to prevent disease transmission utilizing OSHA, CDC regulations and universal precautions.
22. Recognize and provide environmental, personal, and patient safety.
23. Follow safety and emergency procedures.
24. Report unsafe conditions.
25. Demonstrate proper use of the telephone, intercom system, and copy/fax machine.
26. Perform competencies from MNA 100.
27. Maintain records of patient care, condition, progress or problems, and discuss observations with supervisor or case manager.
28. Wash and iron patient laundry.



29. Clean patient living quarters.
30. Provide diversionary activities (entertain, converse with patient, read aloud to patient, etc.).
31. Plan, purchase, prepare and/or serve meals to patient according to prescribed diet.
32. Direct patient in simple prescribed exercise.
33. Change dressings.
34. Run errands and obtain household supplies.
35. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course.
36. Content, skills application, and leadership development.
37. Use information technology applications as appropriate to health care specialties.
38. Integrate literacy and numeracy concepts and processes across all curricular units.
39. Demonstrate employability and social skills relevant to health careers.

#### **Connections**

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement

## **Internship: Pharmacy Technician**

**Valid Course Code: 170558**

**Course Description:** This course may be completed as an independent study or classroom course during the student's senior year. Material covered will include: Orientation, Federal Law, Medication Review, Aseptic Techniques, Calculations, and Pharmacy Operations. It is suggested that students complete and document at least 5-10 hours of observation and/or interview with a pharmacist or pharmacy technician. Upon completion of this internship, students are eligible to take the Pharmacy Technician Certification examination in order to obtain national certification. This internship requires supervised on-the-job work experience related to the students' education objectives in the area of Pharmacy Technician. Students participating in the internship do not receive compensation. Students will be required to follow program and agency requirements for attendance and health screenings. These may include but are not limited to: drug screens, TB skin test, and immunization certificates.

A Memorandum of Agreement must be completed for all clinical sites. The clinical portion of this course requires a minimum of 50 hours of experience—40 hours in a retail pharmacy and 10 hours in a hospital pharmacy.

### **Content/Process**

**Students will:**

1. Understand, discuss and define basic pharmacy terms and definitions.
2. Discuss the Pharmacy Technician Certification Board, its founding members and purpose.
3. Understand the PTCB certification examination structure, time allowed for exam, and broad topic content.
4. Detail the requirements and process needed to maintain certification.
5. Understand Federal Laws that affects the Pharmacy Industry.
6. Discuss different laws and legislation that affect the Pharmacy Industry (when they were enacted and their importance).
7. Discuss the importance of the Controlled Substance Act of 1970.
8. Outline filing procedures, maintaining records according to State and Federal Laws, and drug substitution requirements.
9. Illustrate how a doctor's DEA Number is determined and its purpose.
10. Discuss storage requirements for Schedule II Drugs.
11. Define the four phases of Investigational Drugs.
12. Define Pharmacology (the varied types of drugs, prescription types, medication dosage forms, and medical devices are discussed).
13. List drug interactions on the human body's major systems.
14. Review the different types of medication dosages (i.e., tablets, caplets, liquids, creams, emulsions, etc.).
15. Describe the different types of administration devices for certain medications and dosages.
16. Review drugs which affect the central nervous system, peripheral nervous system, cardiovascular system, and renal system (to include drug interactions, mechanism of action and manufacturer named drugs).

17. Review drugs classified as hormones (to include drug interactions, mechanism of action and manufacturer named drugs).
18. Review drugs classified as anti-infectant drugs (to include drugs interactions, mechanism of action and manufacturer named drugs).
19. Review drugs classified as chemotherapy drugs (to include drug interactions, mechanism of action and manufacturer named drugs).
20. Review blood and blood formation drugs (to include drug interactions, mechanism of action and manufacturer named drugs).
21. Review vitamins (to include drug interactions, mechanism of action and manufacturer named drugs).
22. Practice and demonstrate aseptic techniques.
23. Demonstrate the proper use of various types of syringes.
24. Define the uses of parenteral routes.
25. Identify the four most widely used parenteral routes.
26. Review of sterile compounding procedures.
27. Review the uses of various solutions used in the Pharmacy (irrigation solutions, parenteral solutions, and TPNs).
28. Examine the safe handling of antineoplastic agents used in the treatment of cancer is provided.
29. List the steps of a parenteral admixture order.
30. Calculate dosages through the aspects of Pharmacy mathematics.
31. Convert units of measurement for the metric, avoirdupois, and apothecary systems.
32. Interpret abbreviations and roman numerals used in prescriptions.
33. Practice the basics of fractions, decimals and percent as used in Pharmacology.
34. Convert Fahrenheit – Centigrade temperatures.
35. Utilize ratio proportion relationships for chemical mixtures used in pharmacy.
36. Calculate the amount of drug product to dispense or the number of days' supply from a dosage regimen.
37. Determine the flow rate of an IV solution.
38. Calculate powder volume.
39. Review the various pricing methods used in retail pharmacy.
40. Manage inventory controls of the Pharmacy business with an overview of insurance claims and "third party" reimbursement.
41. Maintain an accurate patient profile.
42. Detail what should be collected for a proper patient profile.
43. Define key terms used in inventory management.
44. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.
45. Use information technology applications as appropriate to health care specialties.
46. Integrate literacy and numeracy concepts and processes across all curricular units.
47. Demonstrate employability and social skills relevant to health careers.

#### **Connections**

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))

- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement
- PassAssured (Exam)
- National Health Association (Exam)

FINAL DRAFT

## Internship: Physical Therapy Aide

**Valid Course Code: 170559**

**Course Description:** The internship provides supervised on-the-job work experience related to the students' education objectives in the area of Physical Therapy. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

### Content/Process

**Students will:**

1. Adhere to all regulations/guidelines outlined by HIPAA.
2. Gain career awareness and the opportunity to test career major choice(s).
3. Name credentialing agencies for careers related to career major.
4. Trace the organizational structure of the career major and affiliating agency.
5. Research the history and rationale of career major specialty.
6. Identify the different specialties in the career major.
7. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
8. Research common diseases or problems associated with career major.
9. Receive work experience related to the Physical Therapy Technician career prior to graduation.
10. Integrate classroom studies with work experience.
11. Receive exposure to facilities and equipment unavailable in a classroom setting.
12. Increase employability potential after graduation.
13. Demonstrate performance skills related to the Physical Therapy Technician career.
14. Demonstrate knowledge of first aid and CPR as they relate to the area.
15. Demonstrate professional etiquette and responsibilities.
16. Demonstrate effective communication skills.
17. Practice team building concepts.
18. Demonstrate effective use of time management skills.
19. Incorporate use of related medical terminology and theory related to the Physical Therapy Technician career.
20. Demonstrate correct observation skills.
21. Perform procedures to prevent disease transmission utilizing OSHA, CDC regulations and universal precautions.
22. Recognize and provide environmental, personal, and patient safety.
23. Demonstrate proper use of communication technology (phone, internet, etc.) used in the career area.
24. Schedule appointments for the patient.
25. Prepare area and patient for treatment, including equipment and supplies.
26. Receive patients and visitors.
27. Assist in care of patient's valuables.
28. Attend to physical therapy records.

29. Compile departmental and equipment data.
30. Observe, record, and report patient data.
31. Relate facts, ideas, and feelings by communicating with staff and family.
32. Write reports concerning patient progress, attitudes, attendance and accomplishments.
33. Assist with patient and family teaching as prescribed.
34. Provide assistance to the visually impaired patient.
35. Communicate with the hearing impaired patient.
36. Provide emotional and spiritual support for patient and family.
37. Respond to emotional needs of the terminally ill patient and family.
38. Check therapeutic air and water temperatures.
39. Measure and record vital signs, including height and weight.
40. Assist patient in dressing and undressing.
41. Position and drape for physical exam/treatment.
42. Turn and position patient, logroll as necessary.
43. Assist patient in using bedpan and urinal.
44. Apply and remove adaptive and supportive devices.
45. Maintain all equipment and instruments.
46. Evaluate and report equipment needs for service repair.
47. Clean, stock and store equipment and supplies.
48. Prepare soiled linen for laundry.
49. Assist with application of brace and splint.
50. Adjust parallel bars to correct height.
51. Assist patient with dangling, standing, and ambulation.
52. Demonstrate correct transfer techniques when moving a patient using appropriate equipment.
53. Adjust canes, crutches, and walkers.
54. Assist patient to walk with a cane, crutches, or walker.
55. Assist with application of protective restraints.
56. Assist with catheters and drainage tubing care.
57. Assist with active and passive range of motion exercises.
58. Assist with exercises for arthritic patients.
59. Assist with a paraffin bath.
60. Assist with electrical stimulation treatment.
61. Apply hot and cold treatments.
62. Assist with dressing changes.
63. Apply anti-embolism elastic stockings.
64. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.
65. Use information technology applications as appropriate to health care specialties.
66. Integrate literacy and numeracy concepts and processes across all curricular units.
67. Demonstrate employability and social skills relevant to health careers.

#### **Connections**

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))

- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement

FINAL DRAFT

## Internship: Psychiatric Aide

### Valid Course Code: 170560

**Course Description:** The internship provides supervised on-the-job work experience related to the students' education objectives in the area of Psychiatric Aide. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

#### Content/Process

**Students will:**

1. Adhere to all regulations/guidelines outlined by HIPAA.
2. Gain career awareness and the opportunity to test career major choice(s).
3. Name credentialing agencies for careers related to career major.
4. Trace the organizational structure of the career major and affiliating agency.
5. Research the history and rationale of career major specialty.
6. Identify the different specialties in the career major.
7. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
8. Research common diseases or problems associated with career major.
9. Receive work experience related to the Psychiatric Aide career prior to graduation.
10. Integrate classroom studies with work experience.
11. Receive exposure to facilities and equipment unavailable in a classroom setting.
12. Increase employability potential after graduation.
13. Demonstrate performance skills related to the Psychiatric Aide career.
14. Demonstrate knowledge of first aid and CPR as they relate to the area.
15. Demonstrate professional etiquette and responsibilities.
16. Demonstrate effective communication skills.
17. Practice team building concepts.
18. Demonstrate effective use of time management skills.
19. Incorporate use of related medical terminology and theory related to the Psychiatric Aide.
20. Demonstrate correct observation skills.
21. Perform procedures to prevent disease transmission utilizing OSHA, CDC regulations and universal precautions.
22. Recognize and provide environmental, personal, and patient safety.
23. Follow safety/emergency procedures and report unsafe conditions.
24. Demonstrate proper use of the telephone, intercom system, and copy/fax machine.
25. Demonstrate knowledge of current trends in practice and treatment in mental health.
26. Perform applicable competencies from MNA 100.
27. Monitor patients in order to detect unusual behavior, and report observations to professional staff.



28. Provide mentally impaired or emotionally disturbed patients with routine physical, emotional, psychological or rehabilitation care under the direction of nursing and medical staff.
29. Work as part of a team that may include psychiatrists, psychologists, psychiatric nurses, and social workers.
30. Observe the speech therapist, physical therapist, occupational, and recreational therapist as they interact with the patient.
31. Aid patients in becoming accustomed to hospital routine.
32. Assist to organize, supervise, and encourage patient participation in social, educational, and recreational activities.
33. Escort patients to various areas in the facility.
34. Provide diversionary activities (entertain, converse with patient, read aloud to patient, etc...).
35. Observe behavior management.
36. Observe and assist in reducing behavior through reinforcements.
37. Participate in individual and group therapy as permissible.
38. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.
39. Use information technology applications as appropriate to health care specialties.
40. Integrate literacy and numeracy concepts and processes across all curricular units.
41. Demonstrate employability and social skills relevant to health careers.

#### **Connections**

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement

## Internship: Radiographic Aide

Valid Course Code: 170564

**Course Description:** The internship provides supervised on-the-job work experience related to the students' education objectives in the area of Radiographic Aide. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

### Content/Process

**Students will:**

1. Adhere to all regulations/guidelines outlined by HIPAA.
2. Gain career awareness and the opportunity to test career major choices(s).
3. Name credentialing agencies for careers related to career major.
4. Trace the organizational structure of the career major and affiliating agency.
5. Research the history and rationale of career major specialty.
6. Identify the different specialties in the career major.
7. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
8. Research common diseases or problems associated with career major.
9. Receive work experience related to the Radiographic Aide career prior to graduation.
10. Integrate classroom studies with work experience.
11. Receive exposure to facilities and equipment unavailable in a classroom setting.
12. Increase employability potential after graduation.
13. Demonstrate performance skills related to the Radiologic Aide career.
14. Demonstrate knowledge of first aid, safety and CPR as they relate to the area.
15. Demonstrate professional etiquette and responsibilities.
16. Demonstrate effective communication skills.
17. Practice team building concepts.
18. Demonstrate effective use of time management skills.
19. Incorporate use of related medical terminology and theory related to the Radiographic Aide.
20. Research common diseases or problems associated with career major.
21. Demonstrate correct observation skills.
22. Perform procedures to prevent disease transmission, utilizing OSHA, CDC regulations, and standard precautions.
23. Recognize and provide environmental, personal, and staff safety.
24. Report unsafe conditions.
25. Demonstrate proper use of communication technology (phone, internet, etc.) used in the career area.
26. Draw an organizational chart of the radiology department.
27. Greet and dismiss patients and visitors.
28. Schedule patients for x-rays.
29. Check card file for record of previous x-rays on patients.

30. Fill out x-ray ID card.
31. File reports with films.
32. File x-ray film folders.
33. Distribute cassettes to proper x-raying room.
34. Obtain patient's chart from nurse's station.
35. Distribute supplies.
36. Obtain preparation trays for special procedures from central supply.
37. Prepare charge slips for services rendered.
38. Prepare outpatients for radiological studies.
39. Assist the patient in using a bedpan.
40. Assist the patient in using the urinal.
41. Assist in administering an enema.
42. Assist in positioning patients for x-rays.
43. Observe the administration of appropriate chemical mixtures to patients under the direction of the radiologist/technician.
44. Assist in the preparation of trays for special examinations.
45. Identify and describe the major components of the control panel.
46. Operate the automatic processor.
47. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
48. Use information technology applications as appropriate to health care specialties.
49. Integrate literacy and numeracy concepts and processes across all curricular units.
50. Demonstrate employability and social skills relevant to health careers.

#### **Connections**

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement

## Internship: Speech Therapy Aide

Valid Course Code: 170565

**Course Description:** The internship provides supervised on-the-job work experience related to the students' education objectives in the area of Speech Therapy Aide. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

### Content/Process

**Students will:**

1. Adhere to all regulations/guidelines outlined by HIPAA.
2. Gain career awareness and the opportunity to test career major choices(s).
3. Name credentialing agencies for careers related to career major.
4. Trace the organizational structure of the career major and affiliating agency.
5. Research the history and rationale of career major specialty.
6. Identify the different specialties in the career major.
7. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
8. Research common diseases or problems associated with career major.
9. Receive work experience related to Speech Therapy Aide career prior to graduation.
10. Integrate classroom studies with work experience.
11. Receive exposure to facilities and equipment unavailable in a classroom setting.
12. Increase employability potential after graduation.
13. Demonstrate performance skills related to the Speech Therapy Aide career.
14. Demonstrate knowledge of first aid and CPR as they relate to the area.
15. Demonstrate professional etiquette and responsibilities.
16. Demonstrate effective communication skills.
17. Practice team building concepts.
18. Demonstrate effective use of time management skills.
19. Incorporate use of related medical terminology and theory related to the Speech Therapy Aide career.
20. Demonstrate correct observation skills.
21. Recognize and provide environmental, personal, and patient safety.
22. Perform procedures to prevent disease transmission utilizing OSHA, CDC regulations and standard precautions.
23. Follow safety and emergency procedures.
24. Explain how the facial muscles assist speech.
25. Describe the different bones in the body, focusing on those of the face.
26. Define and describe the autonomic nervous system and the effect on speech.
27. Explain the parasympathetic and sympathetic nervous systems; their functions and interrelationships particularly dealing with speech.
28. Identify the major muscles and muscle groups in the body and describe their functions in relation to speech.

29. List the phases of adjustment for a person who has speech difficulties.
30. Explain the concepts of coping versus succumbing to a disability.
31. Define the roles of the various members of the rehabilitation and/or ARC team.
32. Provide emotional support to the patient and family.
33. Receive patients and visitors.
34. Observe and report patient data.
35. Record patient data using SOAP notes format or facility format.
36. Relate facts, ideas, and feelings by communicating with team members: patient, staff, and family.
37. Obtain and clarify data by listening to the patient.
38. Write reports concerning patient care and conditions, census, accidents, and incidents.
39. Assist with patient teaching as prescribed.
40. Reinforce instructions from other health professionals to patient and family.
41. Stock and store equipment and supplies.
42. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
43. Use information technology applications as appropriate to health care specialties.
44. Integrate literacy and numeracy concepts and processes across all curricular units.
45. Demonstrate employability and social skills relevant to health careers.

#### **Connections**

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement

## Internship: Veterinary Assistant & Laboratory Animal Caretaker

Valid Course Code: 170563

**Course Description:** The practicum provides supervised on-the-job work experience related to the students' education objectives in the area of veterinary assistant and laboratory animal caretaker. Students participating in the practicum do not receive compensation.

Must have completed three courses in the Health Science program, or have special permission from the Health Science Teacher.

### Content/Process

**Students will:**

1. Gain career awareness and the opportunity to test career major choice(s)
2. Name credentialing agencies for careers related to career major
3. Trace the organizational structure of the career major and affiliating agency
4. Research the history and rationale of career major specialty
5. Identify the different specialties in the career major
6. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area
7. Research common diseases or problems associated with career major
8. Receive work experience related to the veterinary assistant & laboratory animal caretaker career prior to graduation
9. Integrate classroom studies with work experience
10. Receive exposure to facilities and equipment unavailable in a classroom setting
11. Increase employability potential after graduation
12. Demonstrate performance skills related to the Veterinary Assistant & Laboratory Animal Caretaker career
13. Demonstrate knowledge of first aid and CPR as they relate to the area
14. Demonstrate professional etiquette and responsibilities
15. Demonstrate effective communication skills
16. Practice team building concepts
17. Demonstrate effective use of time management skills
18. Incorporate use of related medical terminology and theory related to the Veterinary Assistant & Laboratory Animal Caretaker
19. Demonstrate correct observation skills
20. Perform procedures to prevent disease transmission utilizing OSHA, CDC regulations and universal precautions
21. Recognize and provide environmental, personal, and patient safety
22. Follow safety and emergency procedures.
23. Report unsafe conditions.
24. Recognize common domestic animal breeds
25. Identify companion animal breeds/species
26. Identify the major animal body regions
27. Recall general anatomical structure of domestic animals
28. Label a diagram of the skeleton of a dog
29. Label a diagram of the muscular anatomy of the dog
30. Label a diagram of the skeleton of a cat
31. Label a diagram of the muscular anatomy of the cat

32. Explain the canine and feline reproductive cycle
33. Explain normal canine and feline social behaviors
34. Label a chart of the digestive system of small animals
35. Discuss age of puberty, length of gestation, and estrus cycle for domestic animals
36. Recognize characteristics of a healthy animal
37. Identify signs of a sick or abnormal animal
38. List common diseases and parasites of small animals
39. Review factors in the control of noninfectious diseases
40. Discuss factors involved in prevention and control of disease
41. Provide information on parasite control vaccinations
42. List diseases of domestic animals for which vaccination is successful
43. Explain routine canine and feline immunization schedules
44. Recognize nutrients and give function of each in diet
45. Describe the dietary needs of canines, felines, equines, bovines, and swine
46. List the components of blood
47. Identify sites from which blood may be collected
48. Demonstrate knowledge of State and Federal Drug Regulations
49. Recognize hazards inherent in the use of drugs in the treatment of animals
50. Store drugs in safe, secure place
51. Identify methods of administering medicines to large and small animals
52. Demonstrate proper use of the telephone, intercom system, copying, and fax machine
53. Maintain cleanliness in waiting room area
54. Make appointments and maintain book
55. Schedule diagnostic tests and surgery
56. Admit and discharge animals per doctor's
57. Obtain patient information from (pet) owner
58. Complete animal health record cards
59. Prepare and maintain clients' medical records
60. Record laboratory reports on charts
61. Perform preliminary H & P and charting
62. File office records and material
63. Process incoming and outgoing mail
64. Assist in preparation of statements for mailing
65. Maintain inventory of supplies such as food and medical products
66. Store incoming supplies
67. Repack bulk medications into smaller containers
68. Maintain check list of items needed for farm visit
69. Perform general housekeeping duties in clinic or kennel
70. Disinfect table tops, floors, and cage areas
71. Wash glassware and instruments
72. Sterilize articles using heat Use autoclave safely
73. Use chemicals (such as: alkalis, alcohols, galogens, and oxidizing agents) for sterilizing and disinfecting
74. Remove waste, manure, and organic materials
75. Provide fresh, dry, bedding materials

76. Apply and remove restraints
77. Restrain animals (manually)
78. Practice safety rules to protect handler and animal when restraint is necessary
79. Identify appropriate equipment (such as: gloves, cat boxes, bags, or a net when restraining cats)
80. Identify muzzles, head snare, and collars with leashes to restrain dogs
81. Identify equine, bovine, and swine restraints
82. Assist vet to transport and restrain domestic animals
83. Tie knots and hitches
84. Use microscope correctly in laboratory procedures
85. Assist vet in performing blood tests
86. Stain blood smears Prepare blood to be sent to lab
87. Assist with collecting fecal samples
88. Assist with preparation of fecal sample using direct smear method
89. Collect urine sample using the free-catch method
90. Assist in collection of urine from cats or dogs by: catheterization, cystocentesis, or physical expression
91. Assist in collection of specimens of bacteria or fungi
92. Prepare and stain slides for identification of bacteria and fungi
93. Treat animals with patience and kindness
94. Exercise dogs
95. Assist with animal grooming
96. Assist to bathe and/or dip domestic animals
97. Identify types of shampoos, dips, and ointments
98. Feed animals using conventional methods (prepare ration as directed)
99. Assist animals in nursing
100. Take vital signs -- temp, pulse, respiration, and weight
101. Assist in artificial respiration
102. Demonstrate CPR on a dog
103. Identify surgical instruments
104. Demonstrate medical and surgical aseptic (Assist vet during surgery)
105. Monitor animal recovering from surgery
106. Change bandages
107. Provide support to client in death of a pet

#### **Connections**

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
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**Special Topics in Allied Health**  
**Valid Course Code: 170591**

<b>Course Description:</b> Special Topics in Allied Health is an expanded course offering the study of current world health-related issues. Topics may vary at the discretion of the instructor with the approval of the state health science consultant.
<b>Content/Process</b>
<b>Students will:</b> <ol style="list-style-type: none"><li>1. Adhere to all regulations/guidelines outlined by HIPAA.</li><li>2. Tasks will vary based on the topic covered.</li><li>3. Research current health-related issues.</li><li>4. Investigate employment opportunities and responsibilities of health care workers.</li><li>5. Develop work habits necessary for individual maturity and job competence.</li><li>6. Create a plan for productive time management.</li><li>7. Interpret instructional manuals.</li><li>8. Discuss articles from professional journals.</li><li>9. Formulate a plan for post-secondary education.</li><li>10. Prepare a written and oral culminating report based on experiences in the health science program.</li><li>11. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.</li><li>12. Use information technology applications as appropriate to health care specialties.</li><li>13. Integrate literacy and numeracy concepts and processes across all curricular units.</li><li>14. Demonstrate employability and social skills relevant to health careers.</li></ol>
<b>Connections</b>
<ul style="list-style-type: none"><li>• Kentucky Occupational Skill Standards/National Health Care Skill Standards</li><li>• National Health Science Standards by the National Consortium for Health Science Education</li><li>• HOSA-Future Health Professionals (<a href="http://www.hosa.org">www.hosa.org</a>)</li><li>• Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)</li><li>• Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards</li><li>• Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement</li></ul>

# **Health Science – Biomedical Science**

## Project Lead the Way (PLTW) Biomedical Science Pathway

Access to curriculum for these 4 courses and certifications require a District/School STEM contract with PLTW. These pages will show course descriptions and valid course codes.

For more information, contact PLTW National ([www.pltw.org](http://www.pltw.org)) or the Biomedical Science State Lead in the Office of Career and Technical Education.

Course Name:	<b>Principles of Biomedical Science</b>
Course Description:	Student work involves the study of human medicine, research processes and an introduction to bioinformatics. Students investigate the human body systems and various health conditions including heart disease, diabetes, sickle-cell disease, hypercholesterolemia, and infectious diseases. A theme through the course is to determine the factors that led to the death of a fictional person. After determining the factors responsible for the death, the students investigate lifestyle choices and medical treatments that might have prolonged the person's life. Key biological concepts including: homeostasis, metabolism, inheritance of traits, feedback systems, and defense against disease are embedded in the curriculum. Engineering principles including: the design process, feedback loops, fluid dynamics, and the relationship of structure to function are incorporated in the curriculum where appropriate. The course is designed to provide an overview of all the courses in the Biomedical Science program and to lay the scientific foundation necessary for student success in the subsequent courses
Valid Course Code:	170701

Course Name:	<b>Human Body Systems</b>
Course Description:	Students will engage in the study of the processes, structures, and interactions of the human body systems. Important concepts in the course include: communication, transport of substances, locomotion, metabolic processes, defense, and protection. The central theme is how the body systems work together to maintain homeostasis and good health. The systems will be studied as "parts of a whole," working together to keep the amazing human machine functioning at an optimal level. Students will design experiments, investigate the structures and functions of body systems, and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary actions, and respiratory operation. Students will work through interesting real world cases and often play the role of biomedical professionals to solve medical mysteries.
Valid Course Code:	170702

Course Name:	<b>Medical Interventions</b>
Course Description:	Student projects will investigate various medical interventions that extend and improve quality of life, including gene therapy, pharmacology, surgery, prosthetics, rehabilitation, and supportive care. Students will study the design and development of various medical interventions including vascular stents, cochlear implants, and prosthetic limbs. They will review the history of organ transplants and gene therapy, and read current scientific literature to be aware of cutting edge developments. Using 3-D imaging software and current scientific research students will design and build a model of a therapeutic protein.
Valid Course Code:	170703

Course Name:	<b>Biomedical Innovation</b>
Course Description:	This capstone course gives student teams the opportunity to work with a mentor, identify a science research topic, conduct research, write a scientific paper, and defend team conclusions and recommendations to a panel of outside reviewers. Each team will have one or more mentors from the scientific and/or medical community guiding their scientific research. This course may be combined with the capstone course from the pre-engineering pathway, allowing students from both pathways to work together to engineer a product that could impact healthcare.
Valid Course Code:	170704

## Internship: Biomedical Science—General

Valid Course Code:

170705

**Course Description:** In this capstone internship course option for PLTW Biomedical Science Pathway, students apply their knowledge and skills during supervised real-world work-related experiences related to the biomedical sciences. Students design and implement an independent project and may work with a mentor or advisor from a university, hospital, physician's office, or industry. Throughout the course, students are expected to present their work to an adult audience that may include representatives from the local business and healthcare community. Students participating in the internship do not receive compensation.

*\*District and School must have a valid and current STEM agreement signed with PLTW and the teacher must complete Core Training to offer this Career Pathway and/or any of these courses.*

### Content/Process

#### Students will:

1. Recognize that breaking a large project into many smaller tasks allows for modifications to be made as necessary and serves as a means to monitor progress toward completion of the project.
2. Use appropriate Internet search techniques to gather information about a topic from appropriate websites.
3. Develop a proposal for an independent project.
4. Establish a protocol, timeline, and a means to measure progress toward completion of the project.
5. Complete an independent project, including making a product, writing a report, compiling a portfolio, and delivering an oral presentation.
6. Develop professional relationships with mentors and other experts in the field of biomedical sciences.
7. Suggestions for study topics: basic scientific research, environmental science research, public health and non-profit organization events including health awareness, food science, job-shadowing with case studies.
8. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.
9. Use information technology applications as appropriate to health care specialties.
10. Integrate literacy and numeracy concepts and processes across all curricular units.
11. Demonstrate employability and social skills relevant to health careers.

### Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards ([www.healthscienceconsortium.org](http://www.healthscienceconsortium.org))
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards

**Internship: Biomedical Science--EKG Technician**  
**Valid Course Code**  
**170706**

**Course Description:** This course must be completed in conjunction with the PLTW Biomedical Innovations (BI) course during the student's senior year. This internship may be completed as an independent study course in addition to the BI requirements and in place of Optional Problem 8. Material covered will include: Anatomy and Electrophysiology of the Heart, The Electrocardiogram; Heart Rate; Regularity; P Waves; QRS Complexes; PR Intervals; Sinus Node Dysrhythmias; Atrial Dysrhythmias; Junctional Dysrhythmias; Ventricular Dysrhythmias; AV Heart Blocks; Electrical Axis; Hypertrophy, Bundle Branch Block, and Pre-excitation; Myocardial Ischemia and Infarction; and Other Cardiac Conditions and the ECG . Students will also be required to document and complete 10 live EKG's under the supervision of the teacher or a health professional. Upon completion of this internship, students are eligible to take the EKG Technician Certification examination in order to obtain national certification. This internship requires supervised on-the-job work experience related to the students' education objectives in the area of EKG Technician. Students participating in the internship do not receive compensation.

*\*District and School must have a valid and current STEM agreement signed with PLTW and the teacher must complete Core Training to offer this Career Pathway and/or any of these courses.*

**Content/Process**

**Students will:**

1. Calculate a patient's heart rate from the EKG tracing (e.g., 6-second method, R to R, sequencing).
2. Identify artifacts from the tracing (e.g., wandering baseline, somatic, electrical).
3. Resolve artifacts from the tracing (e.g., wandering baseline, somatic, electrical).
4. Record an EKG lead on a patient (3-lead, 5-lead, 12-lead).
5. Verify the leads recorded on an EKG.
6. Upload a completed EKG to a patient's electronic medical record.
7. Mount a completed EKG for a patient's chart.
8. Measure a patient's heart rhythm from the EKG tracing.
9. Inspect the waveforms of a cardiac cycle for symmetry, direction, and amplitude (e.g., P waves, QRS Complexes, ST segments, T waves).
10. Measure a patient's heart conduction from the EKG tracing (e.g., PR-interval (PRI), QRS duration, QT-interval).
11. Identify the major classifications of arrhythmias from the EKG tracing (e.g., sinus, atrial, ventricular, and junctional).
12. Identify the major variances to waveforms related to ischemia, injury, or infarction.
13. Respond to potentially life threatening arrhythmias.
14. Verify EKG machine paper speed (e.g., 25mm, 50mm).
15. Verify EKG machine sensitivity (e.g., h, 1, 2).
16. Maintain EKG equipment and the work environment.
17. Recognized pacemaker spikes on an EKG trace.
18. Prepare the patient for EKG monitoring, Holter monitoring, Stress testing, and telemetry monitoring (e.g., patient history, cardiac medications, patient positioning).
19. Apply electrodes on patients for EKG, Holter monitoring, Stress testing, Telemetry, pediatric patients, and patients with special considerations (e.g., right sided heart, posterior chest, amputations).
20. Respond to signs and symptoms of cardiopulmonary compromise.
21. Adhere to HIPAA regulations regarding Protected Health Information (PHI).
22. Monitor patient condition during stress testing.
23. Respond to complications during stress testing.
24. Verify patient understanding of Holter monitor procedures.
25. Obtain patient vital signs (e.g., heart rate, respirations, temperature, blood pressure, pulse ox).
26. On an illustration, identify the structures of the heart and describe their function.
27. On an illustration, trace the flow of blood through the pulmonary and systemic circulatory systems.
28. Describe the electrophysiology of the heart and relate the events of cardiac conduction to the electrocardiogram.
29. Outline the process of electrocardiography.
30. Explain the purpose of measuring the standard 12 lead electrocardiogram.
31. List standards of calibrating and providing general maintenance of an electrocardiograph.
32. Explain the method and rational for measuring the EKG/ECG in the exercising patient including safety hazards.

33. Evaluate the electrocardiogram for cardiac rate, rhythm, and the presence of absence of ectopic beats.
34. Recognize PAC's, atrial fibrillation, atrial flutter, PVC's, ventricular tachycardia, and ventricular fibrillation.
35. Recognize and describe the actions of various common cardiovascular agents.
36. Discuss arrhythmias and identify how to interpret those of the sinoatrial mode, sinus tachycardia, sinus arrest, and sinus bradycardia.
37. Discuss first-degree and second-degree AV block and explain how they can be identified on the ECG/EKG.
38. Explain the difference between right and left bundle branch blocks and briefly define how each can be identified on an ECG/EKG.
39. Discuss the role of the ECG/EKG technician as it relates to patient care and recording of the ECG.
40. Identify and describe the various types of equipment and supplies used in monitoring and recording electrocardiograms.
41. Perform basic lead placement on the adult, pediatric, and neonatal patient.
42. Prepare and position patient for testing.
43. Attach electrodes to the patient's chest, arms, and legs, connect electrodes to leads from the EKG machine, and operate the machine to obtain a reading.
44. Explain testing procedures to patient to obtain cooperation and reduce anxiety.
45. Monitor patients' blood pressure and heart rate using electrocardiogram (EKG) equipment during diagnostic and therapeutic procedures to notify the physician if something appears wrong.
46. Monitor patients' comfort and safety during tests, alerting physician to abnormalities or changes in patient responses.
47. Observe gauges, recorder, and video screens of data analysis system during imaging of cardiovascular system.
48. Adjust equipment and controls according to physician's orders or established protocol.
49. Check, test, and maintain cardiology equipment.
50. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
51. Use information technology applications as appropriate to health care specialties.
52. Integrate literacy and numeracy concepts and processes across all curricular units.
53. Demonstrate employability and social skills relevant to health careers.



Connections
<ul style="list-style-type: none"><li>• Kentucky Occupational Skill Standards/National Health Care Skill Standards (<a href="http://www.healthscienceconsortium.org">www.healthscienceconsortium.org</a>)</li><li>• HOSA-Future Health Professionals (<a href="http://www.hosa.org">www.hosa.org</a>)</li><li>• Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards</li></ul>



FINAL DRAFT

## Internship: Biomedical Science--Pharmacy Technician

Valid Course Code:

170707

**Course Description:** This course must be completed in conjunction with the PLTW Biomedical Innovations (BI) course during the student's senior year. This internship may be completed as an independent study course in addition to the BI requirements and in place of Optional Problem 8. Material covered will include: Orientation, Federal Law, Medication Review, Aseptic Techniques, Calculations, and Pharmacy Operations. It is suggested that students complete and document at least 5-10 hours of observation and/ or interview with a pharmacist or pharmacy technician. Upon completion of this internship, students are eligible to take the Pharmacy Technician Certification Board examination in order to obtain national certification. This internship requires supervised on-the-job work experience related to the students' education objectives in the area of Pharmacy Technician. Students participating in the internship do not receive compensation.

*\*District and School must have a valid and current STEM agreement signed with PLTW and the teacher must complete Core Training to offer this Career Pathway and/or any of these courses.*

### Content/Process

#### Students will:

1. Understand, discuss and define basic pharmacy terms and definitions.
2. Discuss the Pharmacy Technician Certification Board, its founding members and purpose.
3. Understand the PTCB certification examination structure, time allowed for exam, and broad topic content are reviewed.
4. Detail the requirements and process needed to maintain certification.
5. Understand Federal Laws that affects the Pharmacy Industry.
6. Discuss different laws and legislation that affect the Pharmacy Industry (when they were enacted and their importance).
7. Discuss the importance of the Controlled Substance Act of 1970.
8. Outline filing procedures, maintaining records according to State and Federal Laws, and drug substitution requirements.
9. Illustrate how a Doctor's DEA Number is determined and its purpose.
10. Discuss storage requirements for Schedule II Drugs.
11. Define the four phases of Investigational Drugs.
12. Define Pharmacology (the varied types of drugs, prescription types, medication dosage forms, and medical devices are discussed).
13. List drug interactions on the human body's major systems.
14. Review the different types of medication dosages (i.e., tablets, caplets, liquids, creams, emulsions, etc.).
15. Describe the different types of administration devices for certain medications and dosages.
16. Review drugs on the Central Nervous System (to include drug interactions, mechanism of action and manufacturer named drugs).

17. Review drugs which effect the Peripheral Nervous System (to include drug interactions, mechanism of action and manufacturer named drugs).
18. Review of drugs classified as hormones (to include drug interactions, mechanism of action and manufacturer named drugs).
19. Review of drugs that affect the Cardiovascular System (to include drug interactions, mechanism of action and manufacturer named drugs).
20. Review of drugs which affect the Renal System (to include drug interactions, mechanism of action and manufacturer named drugs).
21. Review of drugs classified as Anti-Infectant Drugs (to include drugs interactions, mechanism of action and manufacturer named drugs).
22. Review of drugs classified as Chemotherapy drugs (to include drug interactions, mechanism of action and manufacturer named drugs).
23. Review of blood and blood formation drugs is done (to include drug interactions, mechanism of action and manufacturer named drugs).
24. Review of Vitamins (to include drug interactions, mechanism of action and manufacturer named drugs).
25. Practice and demonstrate aseptic techniques.
26. Demonstrate the proper use of various types of syringes.
27. Define the uses of parenteral routes.
28. Identify the four most widely used parenteral routes.
29. Review of sterile compounding procedures.
30. Review the uses of various solutions used in Pharmacy (irrigation solutions, parenteral solutions, and TPNs).
31. Examine the safe handling of Antineoplastic agents used in the treatment of cancer is provided.
32. List the steps of a Parenteral Admixture Order.
33. Calculate dosages through the aspects of Pharmacy mathematics.
34. Convert units of measurement for the Metric, Avirdupois, and Apothecary systems.
35. Interpret abbreviations and Roman Numerals used in prescriptions.
36. Practice the basics of fractions, decimals and percent as used in Pharmacology.
37. Convert Fahrenheit – Centigrade temperatures.
38. Utilize ratio proportion relationships for chemical mixtures used in pharmacy.
39. Calculate the amount of drug product to dispense, or the number of days' supply from a dosage regimen.
40. Determine the flow rate of an IV solution.
41. Calculate powder volume.
42. Review of various pricing methods used in retail pharmacy.
43. Manage inventory controls of the Pharmacy business with an overview of insurance claims and "Third Party" reimbursement.
44. Maintain an accurate patient profile.
45. Detail what should be collected for a proper patient profile.
46. Define key terms used in inventory management.
47. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.
48. Use information technology applications as appropriate to health care specialties.
49. Integrate literacy and numeracy concepts and processes across all curricular units.

50. Demonstrate employability and social skills relevant to health careers.

**Connections**

- Kentucky Occupational Skill Standards/National Health Care Skill Standards ([www.healthscienceconsortium.org](http://www.healthscienceconsortium.org))
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards

# **Health Science – Medical Administrative Assistant**

## Medical Office Procedures

### Valid Course Code: 170920

**Course Description:** Provides a working knowledge of the duties required in a medical office. Includes professional and career responsibilities, interpersonal communication, administrative responsibilities, and financial administration.

#### Content/Process

**Students will:**

1. List a variety of career possibilities and areas of specialization in medical office careers.
2. Identify and demonstrate good work habits.
3. Apply personal communication skills and techniques.
4. Define and demonstrate appropriate business appearance and image.
5. Prepare a letter of application and resume.
6. Demonstrate and describe proper telephone techniques.
7. Process incoming and outgoing mail.
8. Schedule patient office appointments, hospital admissions, outpatient surgery, and ancillary testing.
9. Assist patients in completing medical forms.
10. Identify the various health care insurance plans, their coverage, and requirements for billing.
11. Complete forms to release patient information.
12. Maintain office equipment and supplies.
13. Identify medicolegal and ethical responsibilities.
14. Discuss the role of cultural, social and ethnic diversity affecting health care.
15. Demonstrate an understanding of office safety and ergonomics.
16. Prepare professional reports.
17. Make travel arrangements.
18. Perform bookkeeping tasks: check writing, bank statement reconciliation, billing and collection procedures.
19. File records accurately.
20. Discuss principles of using electronic medical records.
21. Comply with HIPAA rules and regulations.
22. Identify community resources.
23. Identify safety rules applicable to this course and demonstrate appropriate observance of said rules, including but not limited to, trip hazards, electrical cords and outlets, evacuation procedures for emergency situations (including fire, tornado, bomb threat, earthquake, etc.), lockdown procedures for emergency situations, location and contents of first aid kit, MSDS sheets, etc.
24. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.
25. Use information technology applications as appropriate to health care specialties.
26. Integrate literacy and numeracy concepts and processes across all curricular units.
27. Demonstrate employability and social skills relevant to health careers.

#### Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards

- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement

**Internship: Medical Administrative Assistant**  
**Valid Course Code: 170922**

**Course Description:** The internship provides supervised work site experience related to the students education objectives in the area of medical administrative assistant. Internship experiences consist of a combination of classroom instruction and field experiences. Work-based learning is designed to complement the classroom instruction. Students will be required to follow program and agency requirements for attendance and health screenings. These may include but are not limited to: drug screens, TB skin test, and immunization certificates.

*Prerequisites: Principles of Health Science – 170111*

*Medical Terminology – 170131*

*Emergency Procedures - 170141 or Permission of Instructor*

**Content/Process**

**Students will:**

1. Gain career awareness and the opportunity to test career major choice(s).
2. Name credentialing agencies for careers related to career major.
3. Research the history and rationale of career major specialty.
4. Identify the different specialties in the career major.
5. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
6. Research problems associated with career major.
7. Receive work experience related to the medical administrative assistant career prior to graduation.
8. Integrate classroom studies with work experience.
9. Receive exposure to facilities and equipment unavailable in a classroom setting.
10. Increase employability potential after graduation.
11. Demonstrate performance skills related to the Medical Administrative Assistant.
12. Demonstrate knowledge of first aid and CPR as they relate to the area.
13. Demonstrate professional etiquette and responsibilities.
14. Demonstrate effective communication skills.
15. Practice team building concepts.
16. Demonstrate effective use of time management skills.
17. Incorporate use of related medical terminology and theory related to the Medical Administrative Assistant career.
18. Demonstrate correct observation skills.
19. Perform procedures to prevent disease transmission utilizing OSHA, CDC regulations and universal precautions.
20. Recognize and provide environmental, personal, and patient safety.
21. Follow safety and emergency procedures.
22. Report unsafe conditions.
23. Demonstrate proper use of the telephone, intercom system, copying, and faxing machines.
24. Demonstrate typing, medical transcription, and computer literacy skills.
25. Maintain appointment book according to protocol.
26. Verify patient appointments.
27. Call patients to reschedule appointments.



28. Maintain system for reminding patients of routine re-examination.
29. Make appointment for patient with another physician, e.g. consultation.
30. Complete and maintain patient medical treatment records.
31. File records accurately.
32. Use correct technique for correcting written errors.
33. Complete HIC Medicare/Medicaid/private carrier insurance forms.
34. Retrieve information to use CPT and ICD code books and record on proper forms.
35. Record and keep record of all phone conversations.
36. Collect charts for patients to be seen each day.
37. Explain physician's unavailability to patients in waiting room.
38. Answer questions concerning physician's hours/qualifications/fees.
39. Handle emergency calls.
40. Keep waiting room and physician's office/reception area tidy.
41. Make current periodicals available to patients.
42. Order office supplies.
43. Replenish physician's desk supplies.
44. Assist with the preparation of patient ledger for new patients.
45. Assist with the preparation of charge slips for services rendered.
46. Assist in the posting of patient charges.
47. Assist in posting payment received to patient ledger card.
48. Assist with collecting payment at time of visit.
49. Write receipts.
50. Route patients, on arrival, for scheduled lab work before seeing the physician.
51. Escort patient to appropriate examination/treatment area.
52. Assist the handicapped patient.
53. Comply with HIPAA rules and regulations.
54. Demonstrate appropriate dress and hygiene in the workplace.
55. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
56. Use information technology applications as appropriate to health care specialties.
57. Integrate literacy and numeracy concepts and processes across all curricular units.
58. Demonstrate employability and social skills relevant to health careers.

#### **Connections**

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement

# **Health Science – Pre-Nursing**

**Advanced Nursing Assistant**  
**Valid Course Code: 170620**

**Course Description:** Provides knowledge and skills for nurse aides to assume the role and responsibility required in a long term care setting. Focuses on communication, infection control, safety, resident/patient rights, and basic nursing skills. Prepares the student to perform basic nursing skills at an advanced level.

**Content/Process**

**Students will:**

1. Explain the role of the nursing assistant in a variety of settings.
2. Identify work ethics and personal habits as they apply to the healthcare facility.
3. Demonstrate good personal habits.
4. Explain the nurse aide's role in organizational structure of the nursing facility.
5. Identify responsibilities of the nurse aide to the resident and health care team.
6. Describe basic skills and techniques in the performance of uncomplicated nursing procedures according to the program standards.
7. Use basic skills and techniques in performing uncomplicated nursing procedures according to the program standards.
8. Explain the role of the nurse aide in the processes and procedures associated with the nursing care of residents based on a plan of care and direction from charge personnel.
9. Organize and administer nursing care to residents based on a plan of care and direction from charge personnel.
10. Describe resident's rights in the performance of activities of daily living.
11. Demonstrate knowledge of resident's right in assisting residents with their activities of daily living.
12. Recognize how to assist residents in attaining and maintaining functional independence to the extent possible.
13. Demonstrate ability to assist residents in attaining and maintaining functional independence to the extent possible.
14. Explain the proper care for and use of equipment and supplies necessary for patient care.
15. Demonstrate proper care for and use of equipment and supplies necessary for patient care.
16. Recognize the resident's physical, emotional, social and mental health needs.
17. Demonstrate sensitivity to the resident's physical, emotional, social and mental health needs through skillful, directed interactions.
18. Actively participate in the maintenance of a non-threatening, independence-conducive environment for the nursing facility resident.
19. Demonstrate all identified basic nursing skills with safety and efficiency.
20. Use effective communication techniques with clients, families and other members of the healthcare team.
21. Identify and support situations that may impact the client/families' rights or well-being.
22. Report client knowledge deficits, support needs, and provide basic instruction as directed.

23. Recognize situations beyond one's knowledge and experience and reports appropriately.
<b>Connections</b>
<ul style="list-style-type: none"> <li>• Kentucky Occupational Skill Standards/National Health Care Skill Standards</li> <li>• National Health Science Standards by the National Consortium for Health Science Education</li> <li>• HOSA-Future Health Professionals (<a href="http://www.hosa.org">www.hosa.org</a>)</li> <li>• Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)</li> <li>• Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards</li> <li>• Post-Secondary Connection—KCTCS NAA 125</li> </ul>

**Advanced Pre-Nursing**  
**Valid Course Code: 170621**

<b>Course Description:</b> Provides knowledge and skills for nurse aides to assume the role and responsibility required in a variety of health care settings. Builds upon MNA 100/NAA 100 and prepares the student to perform advanced nursing assistant skills.
<b>Content/Process</b>
<b>Students will:</b> <ol style="list-style-type: none"><li>1. Demonstrate an understanding of the role of the advanced nursing assistant in a variety of settings.</li><li>2. Demonstrate all identified nursing assistant II skills with safety and efficiency.</li><li>3. Organize and perform care for assigned patients in a responsible manner and reports observations.</li><li>4. Communicates effectively with patients, families and other members of the healthcare team.</li><li>5. Identify and report situations that may impact the patient families rights or well-being.</li><li>6. Recognize situations beyond ones knowledge and experience and reports appropriately.</li></ol>
<b>Connections</b>
<ul style="list-style-type: none"><li>• Kentucky Occupational Skill Standards/National Health Care Skill Standards</li><li>• National Health Science Standards by the National Consortium for Health Science Education</li><li>• HOSA-Future Health Professionals (<a href="http://www.hosa.org">www.hosa.org</a>)</li><li>• Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)</li><li>• Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards</li><li>• Post-Secondary Connection—KCTCS NAA 1115</li></ul>

**Co-op (Nursing)**  
**Valid Course Code: 170601**

<p><b>Course Description:</b> Cooperative Education provides supervised on-the-job work experience related to the student's educational objectives. Students participating in the Cooperative Education program receive compensation for their work. Work-based learning is designed to complement the classroom instruction. Students will be required to follow program and agency requirements for attendance and health screenings. These may include but are not limited to: drug screens, TB skin test, and immunization certificates.</p> <p><i>Prerequisites: Principles of Health Science – 170111</i> <i>Medical Terminology – 170131</i> <i>Emergency Procedures - 170141 or Permission of Instructor</i></p>
<b>Content/Process</b>
<p><b>Students will:</b></p> <ol style="list-style-type: none"><li>1. Gain career awareness and the opportunity to test career choice(s).</li><li>2. Receive work experience related to career interests prior to graduation.</li><li>3. Integrate classroom studies with work experience.</li><li>4. Receive exposure to facilities and equipment unavailable in a classroom setting.</li><li>5. Increase employability potential after graduation.</li></ol>
<b>Connections</b>
<ul style="list-style-type: none"><li>• Kentucky Occupational Skill Standards/National Health Care Skill Standards</li><li>• National Health Science Standards by the National Consortium for Health Science Education</li><li>• HOSA-Future Health Professionals (<a href="http://www.hosa.org">www.hosa.org</a>)</li><li>• Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)</li><li>• Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards</li><li>• Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement</li></ul>

## Development for Care Giver Role

### Valid Course Code: 170611

**Course Description:** Introduction to nursing and the nursing process as related to client activities of daily living across the life span; opportunity to develop and practice psychomotor skills related to health assessment, promotion, maintenance, and illness prevention.

*Prerequisites: Current CPR card for Health Care Provider and successful completion of a Medicaid Nurse Aide*

#### Content/Process

**Students will:**

1. Use basic health care measures that maintain, promote, and restore optimal health and wellness.
2. Use the nursing process as the method of problem solving in response to client needs.
3. Demonstrate basic physical assessment techniques.
4. Respond to assistive needs of individuals with functional alterations throughout the life span.
5. Exhibit safe and caring behaviors when providing nursing care.
6. Identify situations where client advocacy is indicated.
7. Develop a beginning awareness of self as a care provider.
8. Effectively use selected technological devices that impact client care in the health care setting.
9. Identify situations beyond one's knowledge and experience and seek appropriate assistance.
10. Give a brief history of persons involved with the early development of microbiology.
11. Describe the infectious process and the etiologic agents.
12. Explain the various body defenses against infection including immune response.
13. Define and list the differences between normal flora and pathogenic organisms affecting the body.
14. Explain the control of microbe growth and standard precautions (OSHA requirements) necessary for a safe work environment for the health care provider.
15. (LAB) Interview an individual recognizing subjective and objective data.
16. (LAB) Identify a nursing diagnosis on a care plan.
17. (LAB) Write goals using proper format.
18. (LAB) Identify nursing actions on a care plan.
19. (LAB) In small groups, discuss principles of documentation.
20. (LAB) Present a sample of documentation of nursing care.
21. (LAB) Perform an admission/transfer/discharge.
22. (LAB) Assist with a physical examination.
23. (LAB) Plan a family menu for one day with consideration to nutritional and economic needs.
24. (LAB) Plan a two-day meal for individuals through each stage of the life cycle.
25. (LAB) Demonstrate the techniques in physical assessment: inspection auscultation, percussion, and palpation.
26. (LAB) Perform vital signs.
27. (LAB) Perform coughing and deep breathing exercises.

28. (LAB) Auscultate the chest breath sounds.
29. (LAB) Identify normal and abnormal breath sounds.
30. (LAB) Obtain diet history of an individual.
31. (LAB) List criteria used in assessing metabolic needs of diverse groups.
32. (LAB) Feed individuals according to age and/or specific needs.
33. (LAB) Weigh and measure individuals.
34. (LAB) Perform blood glucose test.
35. (LAB) Assist with use of bedpan/urinal.
36. (LAB) Diaper an infant.
37. (LAB) Collect urine specimen - routine/clean-catch.
38. (LAB) Calculate and record I & O.
39. (LAB) Apply urine collection devices - infants/external catheters.
40. (LAB) Assess bowel sounds.
41. (LAB) Identify methods of promoting safety across the life span.
42. (LAB) Obtain various cultures from patients - throat/wound/stool/urine.
43. (LAB) Perform proper gloving for prevention of spread of infection.
44. (LAB) Perform concurrent cleaning of patient's room.
45. (LAB) Discuss in pre- and post-conference, various isolation technique precautions.
46. (LAB) Demonstrate standard precautions.
47. (LAB) Discuss, in small groups, community resources/support systems available to promote/maintain psychosocial needs of the individual and ways of reaching self-actualization.
48. (LAB) Demonstrate safe transporting of a patient in a wheelchair, e.g., up and down ramps, on and off elevators.

#### **Connections**

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS NPN 105



**Health Science Microbiology/Infection Control**  
**Valid Course Code: 170640**

**Course Description:** This course is designed to promote an understanding of the effects of microorganisms on the human body. The study includes standard precautions necessary for health maintenance and infection control. The focus is on reduction of diseases that interfere with basic human needs.

**Content/Process**

**Students will:**

1. Define terms related to Microbiology.
2. Discuss cell structure and taxonomy of prokaryotic/eukaryotic cells and organelles.
3. Explore the diversity and physical characteristics of microorganisms including bacteria, fungi, algae, protozoa, parasites and viruses.
4. Review basic chemistry concepts.
5. Identify the principles of microbial growth, control and death and actions of microbial control agents.
6. Discuss principles of disease, disease transmission and control, and epidemiology including commonly encountered pathological microorganisms.
7. Identify methods to prevent the spread of communicable diseases (OSHA requirements) necessary for a safe work environment for the health care provider.
8. Discuss human defenses against infectious diseases.

**Connections**

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement

## Introduction to Nursing and Health Care System

Valid Course Code: 170610

**Course Description:** Historical overview of current health care including medical economics, ethical and legal parameters, roles and responsibilities of health care team members with an emphasis on reflective nursing practice. Medical terminology, therapeutic communication techniques, concepts of health, health assessment, self-care and basic needs related to activities of daily living (ADL) across the lifespan are explored.

*Prerequisites: Current CPR card for Health Care Provider and successful completion of a Medicaid Nurse Aide equivalent course*

### Content/Process

#### Students will:

1. Explain the US health care system including delivery systems and the role of health care providers.
2. Explain the history of nursing as it relates to current practice.
3. Explain the ethical and legal parameters governing the practice of practical nursing.
4. Use medical terminology accurately and appropriately.
5. Demonstrate the use of effective therapeutic communication techniques.
6. Relate, at a beginning level, activities of daily living to client age and health status to determine care needs.
7. Collect psychosocial and functional information for the assessment of an individual's health status.
8. Provide basic health care information to promote and maintain health.

### Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS NPN 100

**Medicaid Nurse Aide**  
**Valid Course Code: 170631**

**Course Description:** An instructional program that prepares individuals to perform routine nursing-related services to patients in hospitals or long-term care facilities under the training and supervision of an approved registered nurse. State Registry is available upon successful completion of state written and performance examination. Prior to offering this course, the instructor and health science program must be approved for meeting state requirements set by the Cabinet for Health and Family Services.

**Content/Process**

**Students will:**

1. Practice good personal hygiene.
2. Maintain good personal health.
3. Exhibit acceptable behavior.
4. Work cooperatively with others.
5. Maintain confidentiality.
6. Observe the Resident's Rights.
7. Identify and report abuse or neglect to appropriate person.
8. Use plan of care to meet resident's needs.
9. Communicate with resident, family, and staff.
10. Assist resident in use of intercom/call system/telephone.
11. Report observations/information to appropriate personnel.
12. Recognize health problems related to the aging process.
13. Recognize needs of the resident with cognitive impairment.
14. Assist with providing recreational activities for the resident.
15. Assist with giving postmortem care.
16. Follow standard precautions and bloodborne pathogens standard.
17. Wash hands aseptically.
18. Provide for environmental safety.
19. Adjust bed and side rails.
20. Assist with application of protective devices.
21. Report unsafe conditions to appropriate person.
22. Assist with care of resident with oxygen.
23. Follow fire and disaster plan.
24. Assist resident who has fallen.
25. Assist resident who has fainted.
26. Assist resident who is having a seizure.
27. Clear the obstructed airway - the conscious adult.
28. Using elevation, direct pressure, and pressure points to control bleeding.
29. Serve meals and collect trays.
30. Recognize diet modifications/restrictions.
31. Check food tray against diet list.
32. Feed or assist resident in eating.
33. Administer after meal care.
34. Record and report intake and output.
35. Give bed bath.

36. Assist resident with the partial bath.
37. Assist resident with tub bath.
38. Assist resident with shower.
39. Make unoccupied (closed) bed.
40. Make occupied bed.
41. Perform or assist in performing oral hygiene for the conscious/unconscious resident.
42. Assist with or shave resident.
43. Give backrub.
44. Give perineal care.
45. Shampoo/groom hair.
46. Give nail care.
47. Assist resident with dressing and undressing.
48. Provide urinary catheter care.
49. Provide care for the urinary incontinent resident.
50. Provide care for the bowel incontinent resident.
51. Assist resident in bladder retraining.
52. Assist resident in bowel retraining.
53. Assist resident in using bedpan/urinal.
54. Assist with enema administration.
55. Collect routine/clean catch urine specimen.
56. Collect stool specimen.
57. Collect sputum specimen.
58. Use good body mechanics.
59. Perform or assist with range of motion exercises.
60. Turn and position the resident in bed.
61. Transfer resident to and from bed/chair.
62. Use a mechanical lift to transfer resident.
63. Apply and use gait belt.
64. Assist resident with standing/walking.
65. Assist resident in using cane/walker.
66. Transport resident by wheelchair.
67. Move resident between stretcher and bed.
68. Assist with admission, in-house transfer, and discharge of resident.
69. Measure and record resident temperature by using oral, auxiliary, rectal and tympanic routes using non-mercury glass/electronic thermometer.
70. Measure and record radial pulse.
71. Measure and record respiration.
72. Measure and record blood pressure.
73. Measure and record height/weight.
74. Assist in prevention of pressure/circulatory ulcers.
75. Apply elastic stockings.

#### **Connections**

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- National Health Science Standards by the National Consortium for Health Science Education
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))

- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement; MNA 100
- Kentucky Cabinet for Health and Family Services, Department for Medicaid Services, Nurse Aide Training Information <http://chfs.ky.gov/dms/NAT.htm>

FINAL DRAFT

## Pharmacological and Other Therapeutic Modalities

Valid Course Code: 170614

<p><b>Course Description:</b> Introduction to techniques used to administer commonly used drugs; dosage calculations; diagnostic studies and other related medical therapies; legal responsibilities.</p>
<p><i>Prerequisites: Current CPR card for Health Care Provider and Successful completion of Medicaid Nurse Aide course</i></p>
Content/Process
<p><b>Students will:</b></p> <ol style="list-style-type: none"> <li>1. Calculate drug dosages accurately.</li> <li>2. Identify the fundamental principles related to pharmacology when administering medications.</li> <li>3. Identify legal and ethical responsibilities of the practical nurse when administering medications.</li> <li>4. Identify common therapeutic and diagnostic procedures with pharmacological implications.</li> <li>5. (LAB) Perform conversions with accuracy interchanging apothecary, metric and household systems.</li> <li>6. (LAB) Perform steps in dosage calculations of oral and parenteral medications.</li> <li>7. (LAB) Perform steps in pediatric dosage calculations.</li> <li>8. (LAB) Perform IV therapy calculations.</li> <li>9. (LAB) Practice interpreting abbreviations and symbols of medication orders.</li> <li>10. (LAB) Discuss the significance of Controlled Substance ACT of 1970.</li> <li>11. Discuss the legal/ethical nursing responsibilities related to medications.</li> <li>12. (LAB) Discuss, in small groups, nurse's role in drug action/interaction.</li> <li>13. (LAB) List the "rights of drug administration."</li> <li>14. (LAB) List causes of common medication errors.</li> <li>15. (LAB) Practice various routes of administering drugs in simulated situations and in the clinical facility.</li> <li>16. (LAB) Practice calculating selected drug dosages.</li> </ol>
Connections
<ul style="list-style-type: none"> <li>• Kentucky Occupational Skill Standards/National Health Care Skill Standards</li> <li>• National Health Science Standards by the National Consortium for Health Science Education</li> <li>• HOSA-Future Health Professionals (<a href="http://www.hosa.org">www.hosa.org</a>)</li> <li>• Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)</li> <li>• Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards</li> <li>• Post-Secondary Connection—KCTCS NPN 110</li> </ul>

# **Health Science – Sports Medicine**

## Essentials of Sports Medicine

Valid Course Code: 170301

**Course Description:** An instructional program that prepares individuals to perform routine sports medicine related services for the physically active, under the training and supervision of an approved licensed athletic trainer. The purpose of this program is to give individuals knowledge and skills to prevent, recognize, and provide basic care for injuries and sudden illness.

### Content/Process

**Students will:**

1. Understand anatomy and physiology.
2. Define and explain the medical terms related to sports medicine.
3. Understand structure and function of the musculoskeletal system.
4. Understand structure of related body systems.
5. Explore the fundamental aspects of sports medicine team.
6. Identify members of a sports medicine team.
7. Explore educational requirements of different sports medicine professionals.
8. Identify different career opportunities for sports medicine professionals.
9. Understand licensure requirements of medical professionals.
10. Explore ethical, legal, and professional responsibilities.
11. Recognize and implement professionalism.
12. Examine ethical behavior in health care.
13. Demonstrate legal responsibilities in health care.
14. Recognize and implement acute care skills.
15. Assess vital signs.
16. Demonstrate management of acute injuries.
17. Investigate the principles of exercise programs.
18. Explain the principles of physical conditioning.
19. Understand physical fitness testing and training.
20. Explore how environmental factors affect performance.
21. Differentiate thermal stresses.
22. Investigate severe weather situations.
23. Identify other physical factors related to performance.
24. Explore mechanisms of injury.
25. Identify common injuries.
26. Explore tissue response to injury.
27. Demonstrate management strategies for injury.
28. Explore special considerations in athletics.
29. Demonstrate safety practices for sports medicine.
30. Understand rehabilitation and reconditioning.
31. Understand therapeutic modalities.
32. Identify assessment techniques of athletic injuries.
33. Perform subjective assessment.
34. Explore objective assessment techniques.
35. Investigate diagnostic testing.
36. Prophylactic taping and bracing.



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| <ol style="list-style-type: none"><li>37. Demonstrate lower and upper extremity taping.</li><li>38. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.</li><li>39. Use information technology applications as appropriate to health care specialties.</li><li>40. Integrate literacy and numeracy concepts and processes across all curricular units.</li><li>41. Demonstrate employability and social skills relevant to health careers.</li></ol> |
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<p style="text-align: center;"><b>Connections</b></p>
<ul style="list-style-type: none"><li>• Kentucky Occupational Skill Standards/National Health Care Skill Standards</li><li>• National Health Science Standards by the National Consortium for Health Science Education</li><li>• HOSA-Future Health Professionals (<a href="http://www.hosa.org">www.hosa.org</a>)</li><li>• Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)</li><li>• Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards</li><li>• Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement</li></ul>

## Applied Sports Medicine

### Valid Course Code: 170302

<p><b>Course Description:</b> An instructional program that emphasizes the prevention, assessment and care for injuries and illness to the physically active including the components of exercise science, anatomy, and principles of safety under the supervision of an approved licensed athletic trainer. Subject matter also includes legal issues, acute care skills, nutrition, human performance, taping and wrapping, therapeutic modalities, and application of sports medicine concepts.</p>
Content/Process
<p><b>Students will:</b></p> <ol style="list-style-type: none"> <li>1. Understand anatomy and physiology.</li> <li>2. Define and explain sports medicine related medical terms.</li> <li>3. Understand structure and function of the musculoskeletal system.</li> <li>4. Identify members of a sports medicine team.</li> <li>5. Recognize and implement acute care skills.</li> <li>6. Complete basic first aid and CPR training.</li> <li>7. Assess vital signs.</li> <li>8. Demonstrate management of acute injuries.</li> <li>9. Investigate the principles of an exercise program.</li> <li>10. Understand nutrition and weight management.</li> <li>11. Explore mechanisms of injury.</li> <li>12. Demonstrate management strategies for injury.</li> <li>13. Explore special considerations in athletics.</li> <li>14. Research metabolic and related disorders.</li> <li>15. Investigate special needs in human performance.</li> <li>16. Understand rehabilitation and reconditioning.</li> <li>17. Understand therapeutic modalities.</li> <li>18. Demonstrate therapeutic exercises.</li> <li>19. Explore psychological response to injuries.</li> <li>20. Identify assessment and evaluation techniques of athletic injuries.</li> <li>21. Perform subjective assessment.</li> <li>22. Explore objective assessment techniques.</li> <li>23. Investigate diagnostic testing.</li> <li>24. Prophylactic taping and bracing.</li> <li>25. Describe the use of braces and other equipment.</li> <li>26. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.</li> <li>27. Use information technology applications as appropriate to health care specialties.</li> <li>28. Integrate literacy and numeracy concepts and processes across all curricular units.</li> <li>29. Demonstrate employability and social skills relevant to health careers.</li> </ol>
Connections
<ul style="list-style-type: none"> <li>• Kentucky Occupational Skill Standards/National Health Care Skill Standards</li> <li>• National Health Science Standards by the National Consortium for Health Science Education</li> <li>• HOSA-Future Health Professionals (<a href="http://www.hosa.org">www.hosa.org</a>)</li> </ul>

- Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement

FINAL DRAFT

**Internship: Sports Medicine**  
**Valid Course Code: 170303**

**Course Description:** The internship provides supervised on-the-job work experience related to the students' education objectives. Work-based learning is designed to complement the classroom instruction. Students will be required to follow program and agency requirements for attendance and health screenings. These may include but are not limited to: drug screens, TB skin test, and immunization certificates.

**Content/Process**

**Students will:**

1. Apply the concept of confidentiality to patient information and records.
2. Measure and record vital signs including height and weight.
3. Compare/Contrast normal values for vital signs.
4. Apply the principle of rest, ice, compression, and elevation (R.I.C.E).
5. Demonstrate proper fitting and gait of crutches.
6. Demonstrate proper splinting applications.
7. Demonstrate proper spinal immobilization techniques.
8. Implements proper flexibility in fitness/athletic performance.
9. Implements general conditioning principles to improve cardiovascular fitness and strength.
10. Assess and care for heat cramps, heat exhaustion, and heat stroke using proper skills.
11. Categorize and recognize the most common types of skin injuries.
12. Assess the inflammatory scheme and provide basic care until advanced personnel arrive.
13. Examine and practice an exposure control plan.
14. Identify the importance of a pre-participation examination and assess the exam.
15. Demonstrate palpation of various joint structures.
16. Demonstrate range of motion testing of various joints applying knowledge of injury.
17. Demonstrate strength testing of various muscle groups.
18. Demonstrate reflex testing.
19. Demonstrate functional testing of various body parts.
20. Demonstrate special tests for orthopedic assessment.
21. Demonstrate various taping methods for the elbow, wrist, and thumb.
22. Demonstrate various taping methods for the knee, ankle, and foot.
23. Implements common methods for analyzing body composition.
24. Demonstrate proper techniques of applying a walking boot, knee brace, and shoulder sling, etc. upon request.
25. Implements the safe practice of therapeutic modalities.
26. Discuss the physiological effects, indications, contraindications and application of electrotherapy.
27. Discuss the physiological effects, indications, contraindications and application of mechanical therapy.
28. Implement various range of motion exercises.
29. Uses palpation of various joint structures until supervised medical care arrives.
30. Demonstrate strength testing of various muscle groups.
31. Demonstrate functional testing of various body parts.

32. Demonstrate special tests for orthopedic assessment.
<b>Connections</b>
<ul style="list-style-type: none"> <li>• Kentucky Occupational Skill Standards/National Health Care Skill Standards</li> <li>• National Health Science Standards by the National Consortium for Health Science Education</li> <li>• HOSA-Future Health Professionals (<a href="http://www.hosa.org">www.hosa.org</a>)</li> <li>• Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)</li> <li>• Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards</li> <li>• Post-Secondary Connection—KCTCS course determined through local dual/articulation agreement</li> </ul>

# **Health Science – Veterinary Assisting**

**Principles of Veterinary Assisting**  
**Valid Course Code: 170801**

**Course Description:** Students will explore careers in veterinary medicine, demonstrate knowledge of safety issues in the veterinary field as well as developing core skills for handling large and small animals.

*According to industry standards, students must successfully complete each course with a 75% or better in order to advance in the program.*

**Content/Process**

**Students will:**

1. Interpret the attendance, discipline and grading standards for the school.
2. Demonstrate knowledge of the school's layout, resources and evacuation procedures.
3. Demonstrate knowledge of the program standards, objectives, dress code and safety guidelines.
4. Identify the course grading and internship policies.
5. Demonstrate knowledge of OSHA and DEA regulations for work in a veterinary facility.
6. Describe the roles and responsibilities of different careers in veterinary medicine.
7. Understand the human-animal bond.
8. Demonstrate professional appearance and language in the workplace.
9. Demonstrate appropriate use of electronic communication in the workplace.
10. Demonstrate knowledge of safety precautions with storing, handling and disposing of biological and therapeutic agents, pesticides and hazardous waste.
11. Recognize common zoonotic hazards and how to safely handle animals with zoonotic diseases.
12. Describe isolation procedures and identify when isolation is appropriate.
13. Demonstrate knowledge of chemical hazards and how to safely handle common chemicals in the veterinary hospital.
14. Demonstrate knowledge of proper disposal of hazardous medical waste.
15. Demonstrate knowledge of anatomical terms, physiology and disease processes of basic cell structure.
16. Demonstrate knowledge of anatomical terms, physiology and disease processes of basic tissue structure.
17. Demonstrate knowledge of anatomical terms, physiology and disease processes of the Integumentary System.
18. Demonstrate knowledge of common species terms.
19. Clean and disinfect a kennel or cage.
20. Remove an animal from an enclosure, weigh animal and record weight in medical record.
21. Walk a dog on a slip leash in a controlled manner.
22. Place a halter on a horse and lead it in a controlled manner.
23. Identify normal and abnormal animal behavior.
24. Take an animal's vital signs and record in medical record.
25. Brush a dog or cat using correct grooming tool, including removal of mats.
26. Groom a horse and pick out hooves.

27. Trim a dog's nails.
28. Trim a cat's nails.
29. Demonstrate proper use of clippers and clipper blades.
30. Maintain clippers and clipper blades.
31. Dip a patient.
32. Bathe a patient.
33. Express anal glands using the external method.
34. Clean normal ears.
35. Identify the parts of a medical record.
36. Create a medical record for a new patient and file it alphabetically.
37. Take a patient history and record it in a medical record.
38. Follow intake and discharge procedures for a patient, using release and discharge forms.
39. Answer the phone in a professional manner and make an appointment, determining an emergency and scheduling accurately.
40. Follow legal requirements for the transfer of a medical record.
41. Schedule an appointment using computer appointment book.
42. Bill a client for a procedure using veterinary software.
43. Organize and maintain inventory.
44. Prepare a rabies certificate following state regulations.
45. Prepare a health certificate following national regulations.
46. Describe common exam room procedures to a client.
47. Write a business letter.
48. Restrain a dog in sternal, lateral and ventrodorsal recumbency.
49. Restrain a cat in sternal, lateral and ventrodorsal recumbency.
50. Restrain a dog for jugular venipuncture.
51. Restrain a dog for cephalic venipuncture.
52. Restrain a dog for saphenous venipuncture.
53. Restrain a cat for jugular venipuncture.
54. Restrain a cat for cephalic venipuncture.
55. Restrain a cat for femoral venipuncture.
56. Place a commercial and a leash muzzle on a dog.
57. Place a commercial muzzle on a cat.
58. Utilize a catch pole.
59. Apply an Elizabethan collar to an animal.

### **Connections**

- National Association of Veterinary Technicians in America (NAVTA)
- Kentucky Occupational Skill Standards/National Health Care Skill Standards ([www.healthscienceconsortium.org](http://www.healthscienceconsortium.org))
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- NAVTA Approved Veterinary Assistant Certification: [www.navta.net](http://www.navta.net)
- Hill's Pet Nutrition: [www.hillsvet.com](http://www.hillsvet.com) Veterinary Nutritional Advocate
- Merial- [www.vetmedteam.com](http://www.vetmedteam.com)
- Idexx- [www.idexxlearningcenter.com](http://www.idexxlearningcenter.com)



- FEMA- <http://training.fema.gov/is/>

FINAL DRAFT

## Veterinary Assisting Skills

### Valid Course Code: 170802

**Course Description:** Students will build on previously mastered animal handling skills and develop specific skills in radiology and surgical assisting for work in a veterinary hospital.

*According to industry standards, students must successfully complete each course with a 75% or better in order to advance in the program.*

#### Content/Process

**Students will:**

1. Demonstrate knowledge of anatomical terms, physiology and disease processes of the renal system.
2. Demonstrate knowledge of anatomical terms, physiology and disease processes of the nervous system.
3. Demonstrate knowledge of anatomical terms, physiology and disease processes of the musculoskeletal system.
4. Demonstrate knowledge of anatomical terms, physiology and disease processes of the circulatory system.
5. Demonstrate knowledge of anatomical terms, physiology and disease processes of the respiratory system.
6. Identify processes and procedures of euthanasia.
7. Explain the equipment needed for a necropsy and proper disposal of a deceased animal.
8. Prepare for and clean up after an exam room appointment.
9. Determine an animal's body condition score.
10. Evaluate an animal's mucous membrane color and hydration as well as capillary refill time.
11. Write business letters and professional electronic communication with clients.
12. Demonstrate appropriate use of electronic communication in the workplace.
13. Sex a cat.
14. Approximate the age of a dog or cat from its dentition.
15. Approximate the age of a horse from its dentition.
16. Identify common ectoparasites.
17. Recognize common AKC dog breeds
18. Prepare a blood smear and stain it.
19. Prepare a PCV.
20. Prepare a total protein.
21. Prepare a blood sample for a laboratory.
22. Set up supplies for a serum serology test.
23. Collect a midstream urine sample.
24. Determine physical properties of urine including color and clarity.
25. Use an in-house analyzer for blood analysis.
26. Explain how to handle rabies suspects and handle samples safely.
27. Assist in the preparation of various specimen staining techniques.
28. Demonstrate knowledge of safety procedures for work with radiation.
29. Demonstrate knowledge of the use of a radiology log.

30. Set up for a radiograph.
31. Assist with positioning of animal for a radiograph or ultrasound.
32. Identify directional terms used in veterinary radiology.
33. Demonstrate knowledge of automatic, manual, and digital film developing techniques.
34. Demonstrate knowledge of proper care for radiology equipment.
35. Label, file and store film and radiographs.
36. Know safety techniques for handling processing chemicals.
37. Maintain a surgery logbook.
38. Evaluate situations and apply aseptic technique.
39. Assist in the pre-anesthetic process.
40. Assist in pre-surgical preparation and induction.
41. Assist with the positioning of surgical patients.
42. Clip and prep a surgical site.
43. Provide post-operative care for a surgical patient.
44. Prepare and open sterile cloth wrapped item while maintaining asepsis.
45. Prepare and open sterile paper wrapped item while maintaining asepsis.
46. Clean surgical instruments.
47. Identify surgical instruments and prepare an instrument pack.
48. Prepare a drape pack, a paper pack, and a gown pack.
49. Use a steam autoclave to sterilize packs.
50. Maintain a steam autoclave.
51. Demonstrate knowledge of gas sterilization techniques.
52. Identify different materials and types of sutures.
53. Explain common surgical procedures.
54. Maintain the surgical suite.
55. Monitor/restrain patients for fluid therapy and record observations.

#### **Connections**

- National Association of Veterinary Technicians in America (NAVTA)
- Kentucky Occupational Skill Standards/National Health Care Skill Standards ([www.healthscienceconsortium.org](http://www.healthscienceconsortium.org))
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- NAVTA Approved Veterinary Assistant Certification: [www.navta.net](http://www.navta.net)
- Hill's Pet Nutrition: [www.hillsvet.com](http://www.hillsvet.com) Veterinary Nutritional Advocate
- Merial- [www.vetmedteam.com](http://www.vetmedteam.com)
- Idexx- [www.idexxlearningcenter.com](http://www.idexxlearningcenter.com)
- FEMA- <http://training.fema.gov/is/>

## Advanced Veterinary Assisting Skills

### Valid Course Code: 170803

**Course Description:** Students will build on previously mastered animal handling skills and develop advanced skills for work in a veterinary hospital.

*According to industry standards, students must successfully complete each course with a 75% or better in order to advance in the program.*

#### Content/Process

**Students will:**

1. Demonstrate knowledge of anatomical terms, physiology and disease processes of digestive system.
2. Demonstrate knowledge of anatomical terms, physiology and disease processes of the nervous system.
3. Demonstrate knowledge of anatomical terms, physiology and disease processes of the immune system.
4. Differentiate between prescription and over the counter pharmaceuticals.
5. Demonstrate knowledge of legal issues involving drugs in the workplace.
6. Recognize general types and groups of drugs.
7. Demonstrate knowledge of pharmaceutical terminology.
8. Interpret a prescription and fill it using proper labeling, terminology and calculations, including expiration dates.
9. Hand pill a dog and a cat.
10. Administer oral liquid medication.
11. Provide care and maintenance of nursing equipment.
12. Set up for a fecal floatation.
13. Set up for a fecal smear.
14. Set up for a gross exam of feces.
15. Reconstitute vaccines and demonstrate knowledge of vaccine protocols.
16. Describe possible routes and methods of drug and vaccine administration.
17. Record basic physiological observations in a medical record.
18. Monitor and restrain patients for fluid therapy.
19. Apply and remove bandages to healthy animals.
20. Demonstrate knowledge of small animal nutritional requirements including dry matter basis calculations.
21. Prepare prescription diets and normal food for a patient.
22. Provide care and maintenance of nursing equipment.
23. Demonstrate knowledge of nosocomial infections and how to prevent them.
24. Recognize common CFA cat breeds.
25. Demonstrate knowledge of pet food labeling standards, drymatter basis calculations and the differences between pet food products.

#### Connections

- National Association of Veterinary Technicians in America (NAVTA)
- Kentucky Occupational Skill Standards/National Health Care Skill Standards ([www.healthscienceconsortium.org](http://www.healthscienceconsortium.org))
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))

- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- NAVTA Approved Veterinary Assistant Certification: [www.navta.net](http://www.navta.net)
- Hill's Pet Nutrition: [www.hillsvet.com](http://www.hillsvet.com) Veterinary Nutritional Advocate
- Merial- [www.vetmedteam.com](http://www.vetmedteam.com)
- Idexx- [www.idexxlearningcenter.com](http://www.idexxlearningcenter.com)
- FEMA- <http://training.fema.gov/is/>

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## Veterinary Assisting Internship

Valid Course Code: 170804

<b>Course Description:</b> Students will develop problem solving skills and demonstrate workplace applications of skills with the Veterinary Assisting Internship.
<b>Content/Process</b>
<p><b>Students will:</b></p> <ol style="list-style-type: none"> <li>1. Demonstrate knowledge of anatomical terms, physiology and disease processes of the endocrine system.</li> <li>2. Demonstrate knowledge of anatomical terms, physiology and disease processes of the reproductive system.</li> <li>3. Demonstrate knowledge of common veterinary abbreviations and terms.</li> <li>4. Demonstrate career application of skills and knowledge by completing a veterinary assistant internship in the veterinary industry for a total of 180 hours of contact time.</li> <li>5. Demonstrate knowledge of the veterinary industry by completing the Level 4 Design Project.</li> </ol>
<b>Connections</b>
<ul style="list-style-type: none"> <li>• National Association of Veterinary Technicians in America (NAVTA)</li> <li>• Kentucky Occupational Skill Standards/National Health Care Skill Standards (<a href="http://www.healthscienceconsortium.org">www.healthscienceconsortium.org</a>)</li> <li>• HOSA-Future Health Professionals (<a href="http://www.hosa.org">www.hosa.org</a>)</li> <li>• Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards</li> <li>• NAVTA Approved Veterinary Assistant Certification: <a href="http://www.navta.net">www.navta.net</a></li> <li>• Hill's Pet Nutrition: <a href="http://www.hillsvet.com">www.hillsvet.com</a> Veterinary Nutritional Advocate</li> <li>• Merial- <a href="http://www.vetmedteam.com">www.vetmedteam.com</a></li> <li>• Idexx- <a href="http://www.idexxlearningcenter.com">www.idexxlearningcenter.com</a></li> <li>• FEMA- <a href="http://training.fema.gov/is/">http://training.fema.gov/is/</a></li> </ul>

# **Industrial Education – Public Services**

## Emergency Medical Technician (EMT)

Valid Course Code: 461022

**Course Description:** This basic Emergency Medical Technician Course covers all knowledge aspects of trauma care as outlined by national standards, created by federal guidelines, considered to be the responsibilities of ambulance operations. Training involves typical anatomy and physiology; patient assessment; care for respiratory and cardiac emergencies; control of bleeding; application of dressing and bandages; treatment for traumatic shock; care for fractures, dislocation, sprains and strains; medical emergencies; emergency child birth; burns and heat emergencies; environmental emergencies; principles of vehicle rescue; transportation of patients and general operations of ambulance systems.

*Note: This pathway requires an agreement with the KY Board of Emergency Medical Services. More information explained via: [www.kbems.kctcs.edu](http://www.kbems.kctcs.edu).*

### Content/Process

**Students will:**

1. Identify the human systems, including anatomy, physiology and an introduction and practice in patient assessment.
2. Identify the basic mechanics of respiration, signs of airway obstruction and respiratory arrest, maintaining an open airway, pulmonary resuscitation; lavations for children and infants and special conditions for the laryngectomies.
3. Identify the basics of circulation, signs and symptoms of cardiac arrest.
4. Demonstrate the procedure of cardiopulmonary resuscitation by one rescuer and two rescuers.
5. Demonstrate the use of airways, suction equipment, resuscitation devices and airway adjuncts.
6. Describe signs, symptoms, and prevention of shock and treatment of shock.
7. Identify signs of internal bleeding; external bleeding and demonstrate procedures of bleeding control.
8. Identify indicators and contra indicators relative to the use of pneumatic anti-shock garments and provide for practice in their application.
9. Identify the physiology of the skin and types of wound and demonstrate the care of wounds.
10. Demonstrate and practice the application of dressings and bandages.
11. Identify anatomy and physiology of musculoskeletal systems and definitions and types of fractures and dislocations.
12. Demonstrate the techniques of care for fractures and dislocations, sprains and strains.
13. Identify the signs and symptoms of injury to the pelvis and hip and demonstrate the emergency care for pelvic and hip injury.
14. Identify anatomy and physiology of the nervous systems; signs and symptoms of spinal fractures; general rules of care for patients with spinal injuries; signs of skull fractures; care for skull brain, face and neck injuries and practice immobilization using extrication collars and splint devices.
15. Identify functions of the abdomen, genitalia and the chest including techniques of care of these areas.



16. Describe the signs and symptoms of poisoning, bites and stings; heart attack; stroke and dyspnea and the care for medical emergencies relative to these conditions.
17. Describe the signs and symptoms and techniques of care for diabetic, abdominal distress, and substance abuse emergencies including seizures.
18. Identify relative anatomy, physiology and emergency care for emergency childbirth.
19. Identify components of assessing the newborn, care for premature infants, and pediatric emergencies.
20. Identify the degree and classification of burns and care for each classification.
21. Recognize and identify hazardous materials and precautionary procedures.
22. Identify signs and symptoms and correct techniques for heat emergencies, hypothermia and water related emergencies.
23. Describe considerations when dealing with infants, children, elderly and disadvantaged patients.
24. Identify procedures to deal with abnormal behavior and substance abuse patients.
25. Describe dealing with death and near death situations as an EMT.
26. Identify, demonstrate, and practice the procedures for lifting and transfer of patients.
27. Identify and practice the principles of patient triage.
28. Identify procedures of patient extrication from vehicles.
29. Identify the components of ambulance operations.
30. Identify the components of reports and documents associated with emergency care.
31. Identify the legal aspects of emergency care.
32. Identify communications processes associated with the operations of an emergency medical services system.
33. Identify communicable disease transmission and the universal precautions associated with bloodborne and airborne diseases.
34. Provide for in-hospital observations and training.
35. Provide for field observation of emergency medical care as a member of an ambulance crew.

#### **Connections**

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Kentucky Board of Emergency Medical Services (KBEMS)

## EMS Training

Valid Course Code: 461023

**Course Description:** Training involves typical anatomy and physiology; patient assessment; care for respiratory and cardiac emergencies; control of bleeding, application of dressing and bandages; treatment for traumatic shock; care for fractures, dislocation, sprains and strains; medical emergencies; emergency childbirth; burns and heat emergencies; environmental emergencies; principals of vehicle rescue; transportation of patient, and general operations of emergency medical services.

*Note: This pathway requires an agreement with the KY Board of Emergency Medical Services. More information explained via: [www.kbems.kctcs.edu](http://www.kbems.kctcs.edu).*

### Content/Process

**Students will:**

1. Identify the three (3) major roles and responsibilities of the first responder.
2. Describe the legal aspects of providing emergency care.
3. Identify the human systems, including anatomy.
4. Identify the basic mechanics of respiration, signs of airway obstruction and respiratory arrest, maintaining an open airway, pulmonary resuscitation; Variations for children and infants and special consideration for the laryngectomies.
5. Identify comprise of circulation, and signs of cardiac arrest.
6. Demonstrate the procedure of cardiopulmonary resuscitation by one rescuer and two rescuers.
7. Demonstrate the use of airway resuscitator devices and airway adjuncts.
8. Describe signs of shock, prevention of shock and treatment of shock.
9. Identify signs of internal bleeding, external bleeding and demonstrate procedures of bleeding control.
10. Identify the physiology of the skin and classify types of bandages.
11. Demonstrate and practice the application of dressings and bandages.
12. Identify anatomy and physiology of musculoskeletal systems and definitions and types of fractures and dislocations.
13. Demonstrate the techniques of care for fractures and dislocations, sprains, and strains.
14. Identify the signs and symptoms of injury to the pelvis, and hip and demonstrate the emergency care for pelvic and hip injury.
15. Identify anatomy and physiology of the nervous system; signs and symptoms of spinal fractures' general rules of care for patients with spinal injuries; signs of skull fractures; care for skull, brain, face and neck injuries and practice immobilization using extrication collars.
16. Identify functions of the abdomen, genitalia and the chest including techniques of care for these areas.
17. Describe the signs and symptoms of poisoning, bites and medical emergencies relative to these conditions.
18. Describe the signs and symptoms and techniques of care for diabetic, abdominal distress and substance abuse emergencies including seizures.
19. Identify relative anatomy, physiology and emergency care for emergency childbirth.

20. Identify the methods to employ for assessing the newborn, care for premature infants and pediatric emergencies.
21. Identify the degree and classification of burns and care for each classification.
22. Recognize and identify hazardous materials and precautionary procedures.
23. Identify signs and symptoms and care techniques for heat emergencies, hypothermia and water related emergencies.
24. Identify procedures to deal with abnormal behavior and substance abuse patients.
25. Describe dealing with death and near death situations as a first responder.
26. Identify, demonstrate, and practice the procedures for lifting and transfer of patients.
27. Identify and practice the principles of patient triage.
28. Identify procedures of patient extrication from vehicles.
29. Identify the components of ambulance operations.
30. Identify the components of reports and documents associated with emergency care.
31. Identify communication processes associated with the operations of an Emergency Medical Services System.
32. Identify communicable disease transmission and the universal precautions associated with blood borne and airborne pathogens.

#### **Connections**

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals ([www.hosa.org](http://www.hosa.org))
- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards
- Kentucky Board of Emergency Medical Services (KBEMS)

# **Non-Classified Complementary Courses**

## Leadership Dynamics – Health Science

### Valid Course Code: 170199

<p><b>Course Description:</b> This course is designed to assist students with developing skills needed to be successful leaders and responsible members of society. The students will develop personal attributes and social skills necessary for a successful transition into the world of work, and/or further education. Emphasis will be placed on team work, problem solving, critical thinking, communication (oral and written), personal development (work ethics), and leadership. It is recommended that the student be a member of the student organization where they will have opportunities to apply the knowledge gained from this course.</p>
Content/Process
<p><b>Students will:</b></p> <ol style="list-style-type: none"> <li>1. Define leadership: compare the types of leadership styles, and assess the importance of qualified leaders to the success of organizations.</li> <li>2. Analyze personal characteristics/qualities of successful leaders; construct a questionnaire and interview a person in a leadership role.</li> <li>3. Participate in leadership opportunities available in the community.</li> <li>4. Develop communication skills (verbal and written) to enhance success in school and in transition to the world of work.</li> <li>5. Prepare and present an informative, illustrative, or persuasive speech.</li> <li>6. Participate in public relations activities by speaking, writing, or making presentations to a group.</li> <li>7. Prepare a press release for publication.</li> <li>8. Contact, in writing, a guest to attend an organizational meeting.</li> <li>9. Demonstrate techniques used for proper business/professional etiquette—meeting people, travel, and table etiquette.</li> <li>10. Serve as host when the guest you invite attends a meeting.</li> <li>11. Analyze organizational structures and their components (including bylaws, officers, committees, and program of work).</li> <li>12. Identify main components of and compare local, state and national bylaws.</li> <li>13. Demonstrate the use of parliamentary skills by conducting or presiding over a meeting.</li> <li>14. List the steps for handling a motion and identify the classes of motions.</li> <li>15. List the rules for debate.</li> <li>16. Develop techniques to resolve conflict that arises in the home, school, community, and workplace (conflict management).</li> <li>17. Prepare an Employability Skills Portfolio.</li> <li>18. Collaborate in a team setting using critical thinking and problem solving skills.</li> <li>19. Participate as an active member of HOSA (Future Health Professionals) including local, state, and national events.</li> </ol>
Connections
<ul style="list-style-type: none"> <li>• Kentucky Occupational Skill Standards/National Health Care Skill Standards</li> <li>• National Health Science Standards by the National Consortium for Health Science Education</li> <li>• HOSA-Future Health Professionals (<a href="http://www.hosa.org">www.hosa.org</a>)</li> <li>• Omnibus Budget Reconciliation Act (OBRA) Guidelines (MNA program regulations)</li> </ul>

- Common Core State Standards for Mathematics, ELA and 21<sup>st</sup> Century Science Standards

FINAL DRAFT